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TEACHING OF GASTRO-ENTEROLOGY IN OUR MEDICAL SCHOOLS*

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The Section on Gastro-Enterology and Proctology completes this year the first decade of its existence. The section was established in 1916, in answer to an insistent demand on the part of a constantly enlarging group of the Association membership for a specialized section covering affections of the upper and lower digestive tract. To those of us whose interest has been pledged to the advancement of the two great independent specialties represented, the event of the passing of the first milestone, so to speak, is one of no little importance. The record of the section's achievements during its initiatory period exhibits a full measure of outstanding accomplishments, both in the character and scope of the scientific material submitted, and in the evidence of the ardent interest on the part of the increasing numbers of those in attendance at our yearly sessions. Full credit and justification should thus be accorded the pioneers in gastro-enterology and proctology, who fought for a "place in the sun" for the new section against persistent and in some instances unwarranted opposition.

While the present occasion may be looked on as a fitting one for felicitation on past accomplishments, it likewise serves to focus attention on further needs for strengthening our professional standards for the future. My predecessor, in his forceful address as chairman last year, summarized the progress already achieved by the proctologists in their field, and outlined plans for future advancement in this specialty. The problems that confront the gastro-enterologist, while in many respects similar, are nevertheless cast on somewhat different lines. Gastro-enterology is itself an offshoot of clinical medicine rather than of surgery. The successful worker in this field must count as part of his equipment not only a broad knowledge of the basic sciences, but also a keenness for clinical observation that embraces an understanding of the intimate anatomic and physiologic correlation of the digestive organs to other structures within the abdomen, as well as to the body as a whole. Viewed from this angle, the status of the gastro-enterologist of today is not that of a narrow specialist in clinical medicine, as is conceived by some, a mere craftsman in the employment of tubes, buckets and other mechanical devices, but rather a highly comprehensive internist, possessing special and superior knowledge of the digestive organs and their varied ills.

What part should a well equipped and broadly visioned expert of this type claim as his right in the medical scheme of things as presently constituted? First of all, a place has already been provided for him on the medical staff of an increasing number of hospitals of this country and abroad. This applies particularly to the dispensaries or outpatient departments, in which the number of gastro-intestinal clinics has shown progressive growth within the last few years. In addition, in not a few of the hospitals, especially in the larger centers, indoor services in gastro-enterology, which function in most instances in close cooperation with the department of internal medicine, have also been created.

GASTRO-ENTEROLOGY IN GRADUATE AND UNDERGRADUATE SCHOOLS

The presence of these special hospital services, devoted to a more intimate study of diseases of the digestive tract, has likewise served to spread advancement in another direction; namely, by providing means for enhancing the scope of medical instruction in this important branch of clinical medicine. This opportunity has been utilized in the past principally by the postgraduate schools. The authorities on postgraduate education have seen the necessity for many years past of a separate department or subdepartment in gastro-enterology as an integral part of the curriculum. The plan of instruction in these schools has followed mostly the line of short courses of some four to eight weeks duration, in which the more up-to-date, detailed methods of approach in the diagnosis and treatment of digestive disorders might be presented. The very fact that such marked eagerness has been shown by graduate matriculants for the means of acquiring further knowledge in this field is striking evidence of the dearth of proper training in gastro-intestinal subjects in former periods.

A situation in most respects totally different from that which obtains in postgraduate instruction is set forth by the undergraduate school. Here, the present trend is quite distinctly and, I think in a sense correctly, away from the inclusion of the medical specialties as such in the curriculum, for the reason that they might tend to disrupt the true intent and purpose of undergraduate instruction. The ultimate aim of the undergraduate school is to turn out well trained general practitioners, equipped with a broad knowledge of the

* Chairman's address, read before the Section on Gastro-Enterology and Proctology at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

fundamental principles and methods employed in clinical medicine. Any course of study that does not conform to this particular object is not deemed applicable or desirable. No one today seriously believes that the function of the undergraduate school is to turn out specialists in medicine.

With frank acknowledgment of this fact as a basis for further discussion, what position, then, if any, might gastro-enterology put claim to in the plan of instruction in the undergraduate school? In order to obtain accurate, first hand data on the matter, I prepared a questionnaire and sent it to the deans of the eighty-nine American and Canadian class A undergraduate schools. The questions as submitted were:

1. Does gastro-enterology occupy an individual or special place in the curriculum of your school?

2. If not, are there special hours designated for the teaching of gastro-enterology, as such, in the curriculum?

3. Is there a chair or a subchair in the faculty designated with the title of gastro-enterology?

4. If the foregoing answers are negative, do future plans contemplate the establishment of a separate department of gastro-enterology, apart from that of general internal medicine?

Out of a total of eighty-nine letters sent, seventy-three replies were received. Of these, fifty-seven were from American and nine from Canadian schools. In seven of the schools, the first and second year or preclinical subjects alone were taught, so that they did not fall within the scope of the inquiry. Detailed analysis of the remaining sixty-six replies received, grouping the American with the Canadian schools, was as follows:

To question 1, relative to provision for a special place for gastro-enterology in the curriculum, sixteen, or approximately 25 per cent, reported in the affirmative and fifty, or 75 per cent, in the negative.

To question 2, constituting an alternative query concerning special hours that were devoted to the teaching of gastro-enterology apart from clinical medicine, there were thirty-five, or 53 per cent, affirmative and thirty-one, or 47 per cent, negative replies.

To question 3, inquiring whether a chair or subchair of gastro-enterology had already been established in the faculty, the vote recorded was six, or approximately 10 per cent, affirmative and sixty, or 90 per cent, negative.

To question 4, regarding the future possibilities of a separate department of gastro-enterology, only five of the schools answered positively, and fifty-five, negatively.

The general tone of the letters received was in all instances cordial and in some respects informative beyond the range of the questionnaire. It will be seen, from the figures quoted above, that a considerable majority of the schools are opposed to the policy of providing a special place for gastro-enterology, as such, in the curriculum. On the other hand, more than half the schools report having designated special hours for the teaching of the subject independent of the time set aside for other branches of clinical medicine. Only a relatively small number have established separate chairs for gastro-enterology or contemplate taking this step at the present time. The characteristic point of view on the subject held by the major group of schools may be summarized in the following letter, written by the dean of one of the Eastern schools:

It is the general opinion of our teaching faculty that there is too much specializing in the subject of medicine for undergraduates; that specialism should be confined to hospital clinics, where any students desiring special information may get it; but we do not believe in chairs for these subjects, nor special teaching; all such teaching is done as a part of the general course in medicine.

Largely, as a contrast to this point of view, I quote from another reply to the questionnaire, in this instance also from a school situated in the East:

Gastro-enterology occupies a special place in our school; it is included as one of the medical specialties in the department of medicine. The course is given during the fourth year and consists of didactic lectures, covering all the special diseases of the stomach and intestines, and clinical instruction in the University hospital and in the dispensary. The course is also open to graduate students. A full chair of professor of gastro-enterology and also assistant professor of gastro-enterology have been established.

The tenor of these two letters chosen as examples of varying points of view shows at least a rather wide divergence of opinion on the subject.

The specific objections raised by those opposed to the inclusion of gastro-enterology as a separate study in the medical curriculum may be thus classified and grouped:

1. The subject in its strict sense constitutes medical specialism, and the policy of the undergraduate school of today is opposed to rather than in favor of the introduction of specialties as such in the curriculum.

2. Clinical medicine can best be taught as a single unit without further subdivision of the branch into separate heads or titles.

3. The overcrowded condition of the curriculum of the third and fourth years will not permit of any place for the teaching of additional specialties, even should they prove acceptable.

FUTURE OF GASTRO-ENTEROLOGY

What might be the answer to these objections on the part of those interested in the future advance of gastro-enterology? I myself do not desire to set up an opinion of my own against the apparently settled policy of a considerable number of the thoughtful students of medical education in America. And yet, in contemplating their attitude in this instance, it would seem that much depends on the particular point of view. What, after all, constitutes a medical specialty and where should the line be drawn in the undergraduate school? Certainly, a glance through the prospectus of any class A medical school will reveal the presence in the curriculum of quite a number of definitely established, so-called specialties in medicine. General surgery, which is in itself a highly specialized study today, will be found flanked by such further highly specialized branches as gynecology, urology and orthopedics. Instruction in each of these subjects, it would seem, is given to the undergraduate student in most instances, independent of and under a separate head from that of general surgery. A similar situation prevails in respect to diseases of the eye, ear, nose and throat.

While specialization has not developed as rapidly in internal medicine as it has in surgery, still an independent status has been established within comparatively recent times for pediatrics, neurology and psychiatry, marking a separation of each from their former alliance with clinical medicine. In most instances, the medical schools have been brought to recognize the progressive advance of specialism in medicine only after a certain degree of opposition.

Gastro-enterology, following a prolonged and stormy period of development, is now in a position, I believe,

to press its just claim for recognition on the curriculum of the undergraduate school. As a matter of fact, a considerable number of these schools do avail themselves at present of the services of the gastro-intestinal specialists in providing instruction in this field. More than 50 per cent of the answers to the questionnaire made frank acknowledgment of this fact. I agree fully, however, with the prevailing sentiment of the authorities on medical education that a certain concentration of authority in the major clinical branches, three or four at the most, is necessary in order to conform with the real intent of undergraduate study; namely, to turn out general practitioners of medicine. Each special subject, though treated as a distinct subdivision, should be brought under the centralized control of the departmental chief.

In the ideal type of curriculum set up by the Association of American Medical Colleges, general medicine has been made to include the following subdivisions: pediatrics, neurology, psychiatry, dermatology and syphilis. Gastro-enterology is neither mentioned nor apparently considered in this classification as an essential subdivision of medicine. Nonetheless, the fact remains that this branch is fairly entitled to recognition in the plan of undergraduate teaching, and it is equally undeniable that instruction in the subject is best given by those possessing special training and experience in this particular field of work. The omission, therefore, of gastro-enterology from the list is not, I believe, a mere oversight and should call for immediate correction.

After many years of service and personal observation in the ranks of the undergraduate school, I am of the opinion that the interest of the student in respect to the teaching of gastro-intestinal and allied subjects would be best conserved by a plan such as follows: For the first and second, or preclinical years, correlation in the study of the basic sciences should be carried out in connection with the presentation of simple clinical data relating to disturbances of function of the digestive organs. A general plan of this character has been successfully employed and its merits highly commended by Pepper, Joseph and Emerson,[1] at a recent meeting of the Association of American Medical Colleges. Throughout the entire third or junior year, one hour a week should be allotted for the presentation of the various principles and methods underlying the modern concepts of gastro-enterology. This course should include a series of discussions and demonstrations on the technic of passing the stomach and duodenal tubes, duodenal siphonage, nonsurgical biliary drainage, and proctoscopy, as likewise the clinical interpretations to be placed on gastric and duodenal functional tests, feces and other laboratory examinations, and roentgenology of the gastro-intestinal tract. The way would thus be prepared for a close up clinical contact with the digestive patient in the fourth year. Here, the class should be taught, in small groups only, the ways and means of correlating all the clinical data obtained at the bedside and in the laboratory, along with the proper evaluation of the material thus obtained. The so-called overcrowded curriculum of the third and fourth year could be made to provide a limited, though sufficient time, I believe, for the plan as outlined above, even at the expense, if necessary, of slight encroachment on other fields.

1. Pepper, Joseph and Emerson: Proc. Thirty-Fourth Annual Meeting, Association of American Medical Colleges, March, 1924.

THE EPIDEMIOLOGY OF POLIOMYELITIS

WITH REFERENCE TO ITS MODE OF SPREAD*

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The most widely accepted theory concerning the mode of spread of poliomyelitis is that of direct contact through the upper respiratory passages. This theory, brought out by Wickman, has received experimental support in the detection of the virus in the upper respiratory passages in active cases, abortive cases and healthy contacts, and in the infection of animals through the nasal mucosa. However, epidemiologic evidence of direct contact is scant. The proportion of cases ascribed to direct contact, made up largely of multiple cases in families, has been stated at around 5 per cent. It has been observed that the onsets of multiple cases in families as a rule so nearly coincide that they probably represent in the majority of instances simultaneous infection.[1] When allowance is made for this, the proportion of direct contact cases is reduced to an extremely small figure.

The apparent discrepancy between the theory of spread through direct person to person contact and observation in the field has been met by the assumption of a comparatively large proportion of mild forms of the disease which escape recognition, and of healthy carriers, which together are largely responsible for the spread of the virus. Grounds for this assumption are found in the well known occurrence of paralyses so slight that they often pass unnoticed, and of the abortive type of the disease, as well as by the occasional detection of the virus in the nasopharyngeal secretions of healthy persons.

There are certain facts which seem to indicate that the distribution of the virus is indeed much more widespread than is indicated by recognizable cases; namely, age distribution and serum neutralization of the virus. The age distribution of poliomyelitis corresponds closely to that of the common contagious diseases, measles, scarlet fever and diphtheria. That this is probably a function of exposure and immunization is indicated by the difference between urban and rural age distribution. In concentrated populations, the peak of incidence is at from 2 to 3 years of age, after which the decline is so marked that only a small proportion of cases occur after 10 years of age. On the other hand, the peak in rural sections occurs somewhat later, and is not as pronounced as in cities. However, the decline after the peak is more gradual, so much so that after 5 or 6 years of age the incidence is relatively greater in rural sections.

This difference in age distribution, notwithstanding the fact that the incidence of poliomyelitis is as a rule greater in small communities and in rural sections than in large cities, suggests that with concentration of population and, as has been assumed, greater person to

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* This work was done with the support of the Harvard Infantile Paralysis Commission and the aid of a special fund privately donated to the Research Laboratory of the Vermont Department of Health.

1. Aycock, W. L., and Eaton, Paul: The Epidemiology of Infantile Paralysis: The Relation Between Multiple Cases in the Same Family, Am. J. Hyg. 5:724-732 (Nov.) 1925; The Epidemic of Poliomyelitis in New York City in 1916, Monograph, Department of Health, New York City, 1917, p. 121.

person contact, there is a widespread distribution of the virus, resulting not in greater incidence than in rural sections, as is true of the common contact diseases, but in a widespread immunization. In view of the fact that there is no theoretical reason why persons in rural life should be more prone to exhibit the paralytic form of the disease, it would seem perhaps more reasonable to believe that the immunization in concentrated populations may be due to subinfective doses rather than to a mild attack of the disease. Another point in favor of this immunizing process is the viricidal property of serum from a considerable proportion of normal individuals tested. While these tests have not been done on a large scale and the limits of serum neutralization are not yet clearly defined, the suggestion is that such individuals have undergone a process of immunization. This is evidenced by the absence of viricidal action of normal monkey serum, this property being acquired only after an attack of the experimental disease or after artificial immunization.

Under this conception of the distribution of the virus, the paralytic case has been considered as a relatively infrequent form of the disease, the lack of traceable relationship between recognized cases being accounted for by the supposition of intervening missed cases or healthy carriers.

The extent of the occurrence of the abortive form of poliomyelitis is not known, and the same is true of healthy carriers. The detection of the virus has been accomplished in such a small proportion of persons tested that, from an experimental point of view, the widespread distribution of abortive cases and healthy carriers can only be hypothesized. Epidemiologic evidence does not reveal the presence of any considerable number of cases of the abortive type of the infection. In a number of instances in which there were good opportunities for the detection of such cases, little evidence of their existence was found. For example, in a camp of approximately sixty boys, three paralytic cases occurred within a week. There was no increase in the sick-call, and an examination of the entire population of this camp did not reveal any evidence of sickness that could be suspected as having been abortive poliomyelitis. In a number of outbreaks in schools, we were not able to find any trace of mild illness that could be suspected. In several instances in which mild illness prevalent in the vicinity was regarded as poliomyelitis, investigation revealed other conditions.

Observations of the occurrence of poliomyelitis in Vermont over a number of years has borne out the idea that recognizable cases seldom occur in such relation to one another that they could be considered as resulting from direct contact; and yet, on the other hand, the time and space relationships between such cases suggest a more definite relationship than is implied in the abortive case healthy carrier theory of transmission.

In a study of multiple cases in families [1] it was found that, in the majority of instances in which more than one case occurred in the same family, the onsets were so close as to suggest simultaneous infection. More rarely, some patients were found attacked at a later date—after an interval of from ten to eighteen days—indicating that they were probably secondary infections.

REVIEW OF CASES

EXAMPLE 1.—Two cases suggesting simultaneous infection from thirteen to sixteen days before onset occurred in Margaret W., aged 16 (onset, Aug. 22, 1924), and Elizabeth W., aged 12 (onset, Aug. 25, 1924), sisters, who were not in contact with each other from August 9 to August 25, Margaret being away for a visit, where she developed poliomyelitis, August 22; she was brought home, August 25, the day Elizabeth developed symptoms. There was no history of contact with other cases. Although poliomyelitis was prevalent in both places, it is believed that the chances of independent origin of the two cases are slight, in view of the low incidence of this disease.

The idea of simultaneous infection is further borne out by the intervals between so-called contact cases. In New York City, in 1916, it was found that additional cases occurring in the same house but not in the same family likewise occurred in the majority of instances within such a short time of each other as to be considered coincident infection.[2] In Massachusetts, in 1916, the majority of so-called contact cases (not in the same family) had practically simultaneous onsets.[3]

TABLE 1.—*Data in Simultaneous Onsets of Poliomyelitis from Common Source Infection*

Year	Place	Name	Age, Years	Sex*	Onset	Time Interval, Days	Comment
1921	Woodstock....	H. L.	4	♂	Oct. 23	4	Within 2 miles; no history of contact
	Woodstock....	B. G.	25	♂	Oct. 27		
1921	Colchester.....	D. W.	5	♂	Aug. 26	1	Adjacent houses, daily contact
		F. M.	35	♂	Aug. 27		
1922	Rutland.....	W. H.	..	♂	July 23	0	No history of contact; same city
		D. C.	..	♂	July 23		
1923	Huntington....	J. W.	9	♀	Aug. 8	2	Ten miles apart; no other case in vicinity; within 4 miles of preceding case, but no known connection
	Shelburne.....	C. G.	3	♂	Aug. 10		
	Shelburne.....	D. W.	14	♂	Oct. 2		
1924	Rock Island, P. Q.	Y. J.	..	♂	July 25	0	Cases 1 and 2, 20 miles apart; cases 2 and 3, 12 miles apart; no history of contact, but all families had done considerable motoring in same territory; no known connection with foregoing cases
	Brighton.....	D. G.	20 mo.	♂	July 25		
	W. Burke.....	H. P.	4	♂	July 25		
	W. Burke.....	.....	..	..	Oct. ?		
1925	Elmore.....	I. H.	13	♀	Aug. 17	0	First case, one family; 2 and 3 in adjacent family; all in daily contact
	Elmore.....	J. R.	17 mo.	♀	Aug. 17		
	Elmore.....	R. R.	4	♂	Aug. 17		

* In this column, ♂ indicates male; ♀, female.

The following are instances of simultaneous occurrence in contacts not in the same family:

EXAMPLE 2.—In Elmore, three cases, with the onset, Aug. 17, 1925, occurred, two in one family and one in the next farmhouse less than one-fourth mile away. The families were relatives and in daily contact. The nearest previous case, about 4 miles away, had occurred, August 3, fourteen days before. A visitor was at this home on the day of onset, and later visited the two families in which the three simultaneous cases occurred.

EXAMPLE 3.—D. W., a boy, aged 5 years, was taken ill, Aug. 26, 1921. F. S. M., a man, aged 35, in whom the onset occurred, Aug. 27, 1921, kept a store in the small village, and the boy, living two or three doors away, was a regular visitor at the store. No other case occurred in the neighborhood.

2. The Epidemic of Poliomyelitis in New York City in 1916, Monograph, Department of Health, New York City, 1917, p. 153.
3. Infantile Paralysis Epidemic in Massachusetts, 1916, Massachusetts State Department of Health, 1919.

EXAMPLE 4.—Mrs. G., aged 31, was taken ill, Aug. 15, 1923; Bernice C., aged 9, Sept. 1, 1923, and Dorothy C., aged 15, Sept. 1, 1923. Bernice C. lived about 3 miles from the village on an isolated farm. Dorothy C., living in a city 20 miles away, visited her for about a week, returning home either one or two weeks before the two girls fell sick. Unfortunately, neither family could be perfectly sure whether the visit between these two girls ended one week or two weeks before the onset of sickness. There was no direct or indirect contact with Mrs. G., who lived in the village about 3 miles from Bernice's home. The nearest case to this group was more than 20 miles away.

These examples illustrate common source infection in contacts, as well as the interval of approximately fourteen days between cases within a short distance but not in contact.

The accompanying tables represent instances of the occurrence of two or more cases within such a short distance of each other, and at the same time so far removed from other cases that it seems reasonably certain that they constitute small localized outbreaks. In these tables multiple cases in the same family have not been included, except when such a family happens to be in a group with other adjacent cases.

TABLE 2.—*Data in Simultaneous Onsets of Poliomyelitis in Common Source Groups with Interval of from Ten to Eighteen Days Between Cases*

Year	Place	Name	Age, Years	Sex	Onset	Comment
1921	Grand Isle.....	F. B.	16	♂	July 14	All within radius of 3 miles; two sets of coincident cases separated by fourteen-day interval
	Grand Isle.....	H. B.	16	♀	July 18	
	Grand Isle.....	A. L.	40	♀	Aug. 1	
		M. B.	1	♀	Aug. 1	
		J. R.	14	♂	Aug. 6	
1923	Athens.....	R. H.	7	♂	Aug. 1	Two September 1 cases in contact; no contact between other cases in the group; 14 day interval between 1st and 2d cases; 17 days between 2d and 3d, and 11 days between 6th and 7th should be noted
	Wilmington....	L. G.	31	♀	Aug. 15	
	Wilmington....	B. C.	9	♀	Sept. 1	
	Wilmington....	D. C.	15	♀	Sept. 1	
	Bellows Falls..	S. A.	4	♂	Oct. 22	
	Putney.....	K. H.	18	♂	Nov. 22	
	Dummerston...	E. G.	12	♀	Dec. 3	
1923	Rupert.....	A. L.	8	♀	Sept. 11	First two cases, same family, third across street; daily contact; fourth case some distance away; no contact
	Rupert.....	F. L.	12	♂	Sept. 14	
	Rupert.....	G. M.	7	♂	Sept. 17	
	Rupert.....	P. T.	8	♂	Sept. 25	
1924	Sharon.....	C. B.	4	♂	Sept. 11	Second and third cases same house; daily contact; no other contact in group
	Randolph.....	G. A.	21	♂	Sept. 17	
	Randolph.....	J. E.	Adult	♀	Sept. 29	
	Randolph.....	K. B.	21	♂	Oct. 1	
1925	Calais.....	E. B.	17	♂	Aug. 3	First case 8 miles distant from group of three, and was nearest previous case; indirect contact through relative who visited first patient day of onset, and 1 week later visited other three; at no time did she show symptoms, but at this time she also visited a patient with scarlet fever, which she contracted and carried to other members of her own family
	Elmore.....	I. H.	18	♀	Aug. 17	
	Elmore.....	J. R.	17 mo.	♀	Aug. 17	
	Elmore.....	R. R.	4	♂	Aug. 17	
1925	Stowe.....	C. L.	25	♂	Sept. 19	No contact direct or indirect; first case in village; second case within a few blocks; third, about a mile away
		C. P.	15	♀	Oct. 1	
		R. P.	6	♂	Oct. 4	

These groups of cases have been divided for convenience into three tables: (1) cases with simultaneous onset; (2) those including instances of simultaneous onset as well as intervals of approximately fourteen days; (3) instances in which an interval of from ten to eighteen days elapsed between cases.[4] In this respect, the time intervals between cases in these small localized outbreaks are similar to those of family outbreaks previously referred to.

TABLE 3.—*Data in Instances of Poliomyelitis with Interval of from Ten to Eighteen Days Between Cases*

Year	Place	Name	Age, Years	Sex	Onset	Time Interval, Days	Comment
1921	Jericho.....	G. W.	28	♂	Oct. 1	17	Within two mile radius; late in season; no contact; intervals should be noted
	Underhill.....	M. N.	9 mo.	♀	Oct. 18		
	Jericho.....	D. P.	7	♂	Nov. 4	16	
	Underhill.....	R. T.	10	♀	Nov. 18	14	
1921	Hinesburg.....	J. M.	32	♂	Oct. 11		Last three same family; about 5 miles from first patient; first and third patients in contact
	Starksboro....	S. B.	24	♂	Oct. 20	9	
	Starksboro....	G. R.	22	♀	Oct. 27	7	
	Starksboro....	G. R.	15	♀	Nov. 15	19	
1921	Bennington....	R. P.	14	♂	Sept. 3		Three miles apart; no contact
	Bennington....	A. J.	21	♂	Sept. 15	12	
1922	Waterbury.....	H. H.	..	..	Oct. 12		No contact, direct or indirect
	Waterbury.....	E. M.	8	♀	Oct. 22	10	
1923	Bennington....	G. S.	5	♂	July 29		No contact, direct or indirect
	Bennington....	J. M.	13	♂	Aug. 17	19	
1925	Granville.....	O. F.	16	♂	Oct. 17		On day of onset first patient passed house of second patient and held few minutes conversation with cousin of second patient; no other case within in about 25 miles
	Granville.....	C. W.	11	♀	Oct. 30	13	
1925	Middlebury....	E. B.	12	♀	Aug. 24		No contact, direct or indirect
	Cornwall.....	H. N.	20	♂	Sept. 18	18	
1925	Shaftsbury....	A. F.	10	♂	Sept. 20		Cases about 12 miles apart, but along main highway; no direct or indirect contact
	Manchester....	F. D.	6	♂	Oct. 1	11	
	Danby.....	N. W.	..	♂	Oct. 15	14	
1925	St. Albans.....	Z. L.	27	♀	Oct. 12		At time of onset of first case, second patient was visiting within a block, but returned home—14 miles—ten days before onset; no direct or indirect connection
	Milton.....	H. B.	31	♂	Oct. 30	18	
1926	Bradford.....	L. T.	13	♀	Feb. 14		No direct contact, connection being as follows: *
	Bradford.....	H. S.	13	♀	Feb. 25	11	

* Father of first patient killed a beef about day of onset of this case, of which he sold a quarter to father of second patient, who called for it and delivered some to his older children, who lived in a village 3 miles away, in one of whom a second case occurred—a child, aged 6, in family of second patient lived at home near that of first patient and attended same school.

In table 1 are given five instances, in addition to that cited in example 2, in which neighboring cases have occurred practically simultaneously.

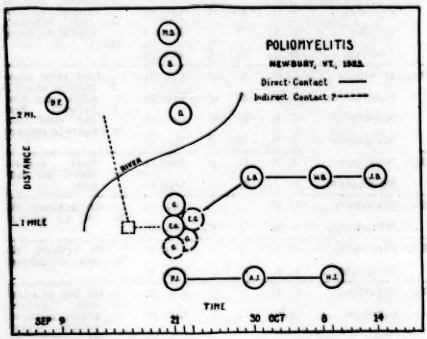
Table 1 gives examples involving, it is believed, common source infection, while table 2 shows cases in

4. This variation of eight days corresponds to the variation in the incubation period noted in experimental disease in monkeys (footnote 1, first reference).

which there were common source groups, as well as an interval ranging from ten to eighteen days.

Table 3 shows instances in which there was an interval of from ten to eighteen days between cases.

As will be seen in table 3, in none of the cases is there a history of direct contact. It would seem, then, that these cases, occurring as they do within very short distances and removed from other cases and within an apparently definite time, constitute primary and secondary cases.



Time and distance between cases in a localized outbreak: solid line circles, paralytic cases; broken line circles, nonparalytic cases; the "G" cases are all in one family.

Table 4 and the accompanying chart represent an isolated outbreak comprising fifteen cases, occurring within a radius of about 3 miles. Nine of these cases with no history of contact occurred practically simultaneously, twelve days after a previous case in the same vicinity. This suggests that the earlier case was the source of the outbreak, although we were unable to establish any relationship. From September 30 to

TABLE 4.—*Data in Isolated Outbreak of Poliomyelitis*

Year	Place	Name	Age	Sex	Onset
1923	Piermont (N. H.).....	D. F.	..	♂	September 9
	Piermont (N. H.).....	M. S.	50	♀	September 21
	Haverhill (N. H.).....	B.	11	♂	September 21
	Newberry	G.	5	♂	September 21
	Newberry.....	E. G.	8	♂	September 21
	Newberry.....	G.	15	♂	September 21
	Bradford.....	P. J.	4½	♂	September 21
	Piermont (N. H.).....	D.	5	♂	September 22
	Newberry.....	E. G.	14	♂	September 23
	Newberry.....	G.	12	♂	September 23
	Newberry.....	L. B.	12	♂	September 30
	Bradford.....	A. J.	27	♂	September 30
	Newberry.....	W. B.	13	♂	October 8
	Bradford.....	H. J.	27	♀	October 9
	Newberry.....	J. B.	10	♂	October 14

October 14, five additional cases occurred, three of these in the B family who lived next door to the G family and were in daily contact with them. The two latter cases occurred in families in which there were previous cases.

Tables 1-4 comprise approximately one third of all the cases of poliomyelitis that have occurred in the state of Vermont in the period represented, from 1921 to 1926. These cases occurred in small localized groups which, according to the space and time intervals, for the most part fall into classes 1 and 3 in table 5, which is intended to show different means of transmission as indicated by time and space relationships between cases.

This study, it is believed, suggests that paralytic poliomyelitis is not infrequently transmitted from a given person to other persons within a definite range,

TABLE 5.—*Time and Space Between Cases in Relation to Transmission*

	Space	Time	Mode of Transmission
1.	Immediate associates or within limited distance	Simultaneous onset	Common source
2.	Immediate associates....	Specific interval	Direct contact
3.	Within limited distance..	Specific interval	Transmission through indirect means
4.	Random distance.....	Random time	Transmission through missed cases and healthy carriers
	Sporadic cases		

but that transmission in such instances is not usually through direct contact between the individuals, nor through the intervention of missed cases or healthy carriers, but through some indirect means. This is illustrated by a recent outbreak, the epidemiologic evidence of which pointed to milk as the means of transmission.[5]

ABSTRACT OF DISCUSSION

DR. J. P. LEAKE, Washington, D. C.: Dr. Aycock's plan seems of great promise in its probability of advancing our knowledge of the spread of poliomyelitis, particularly in cases such as these, which can be followed much better than in a crowded community. I wish to call attention to the following of a somewhat similar plan in the Elkins, W. V., epidemic of the winter 1916-1917, the report on which is buried in the literature and somewhat forgotten. Dr. Smith, Dr. Bolten and I were able to prove definitely that insect transmission cannot be a necessary factor in the spread of infantile paralysis. We also showed, somewhat in line with some of Dr. Aycock's work, that in cases which might be called abortive, the symptoms tend to be referred to the digestive tract. So much for real evidence. There are other suggestions which the following, out of a series of such more or less isolated epidemics, does give one. Dr. Aycock has mentioned the failure to find abortive cases in many instances. I think any one who has studied intensively many epidemics has found that to be true; certainly, in some epidemics abortive cases are very difficult to discover and one cannot by means of such cases account for the spread of the disease. We must either assume healthy carriers or some other intermediary. The suggestion Dr. Aycock has given here and in other papers about the possibility of invasion by way of the digestive tract is worth bearing in mind. I was also interested in his last diagram of cases in which the father from the family across the river did the visiting and was presumably the healthy carrier. Repeatedly there have been suggestions, in studies that I have had occasion to make, of this very thing, that the adult male member of the family is likely to be more dangerous than others.

DR. W. L. HOLT, Little Rock, Ark.: I investigated an epidemic of poliomyelitis in a suburb of Newark, N. J., in the summer of 1916, when there was a big epidemic in New York state. It started in Brooklyn. We had twenty cases in our town during the summer. I investigated the best I could and was much surprised that I could trace hardly any cases to personal contact with others, there rarely being successive cases. It was certainly a place in which the population was very evenly distributed over the area. I do not think that

5. Knapp, A. C.; Godfrey, E. S., and Aycock, W. L.: An Outbreak of Poliomyelitis Apparently Milk Borne, J. A. M. A., to be published.

there was more than one case in a family, and in the very small slum district there was one fatal case with many children exposed and no secondary case resulting. Also, the first case was on the side of town toward Newark. There were a great many cases in Newark before we had our first case. The father of this first patient worked in Newark. The child had not been in Newark, nor had any one else in the family, except the father. Of course, we knew very much less about poliomyelitis in 1916 than we know now, but it is the general belief of health officers now that this epidemic was spread a great deal by the healthy adults who became healthy carriers.

DR. I. D. RAWLINGS, Springfield, Ill.: Any one who has had much experience with poliomyelitis is struck by the infrequency, relatively, of the secondary cases among direct contacts. In 1916, in Chicago, we became very much excited over the horrible situation in New York, with so many persons dying of the disease, and we took very stringent precautions through cooperation of the public health service and the local authorities in New York. We were advised of every person who left New York for Chicago who might possibly have been exposed. We immediately isolated these people and kept them under observation. When such persons went beyond Chicago, we notified the health officers of their home towns. Cases occurring in our vicinity, with no direct contact traced from New York, were treated in the same way. Every patient with poliomyelitis was hospitalized immediately and all contacts were put under quarantine for sixteen days. We had about 285 cases of poliomyelitis in Chicago in 1916, and 525 in 1917, and there was an average of three direct contacts to each of these cases. Every patient was taken out of the home and hospitalized, but the contacts under 16 were kept in the home for sixteen days, so there were approximately 1,500 direct contacts, and yet but one possible case occurred among them. Also among the large number of people that came from New York and other infected areas not a single case occurred. One is constantly struck with the fact that there are relatively few contact cases. We thought we had three secondary cases in a family in which there had been a case of poliomyelitis. They were reported as positive cases and were taken to the hospital. The final diagnosis in all four cases was trichinosis. I wonder whether in these rural areas referred to by Dr. Aycock the diagnoses were confirmed. We find in Illinois that quite a number of cases reported as poliomyelitis are not poliomyelitis when carefully investigated. The milk-borne epidemic described is very interesting. The Chicago commissioner of health found that in New York very few cases, if any, occurred among children who were using pasteurized milk distributed through the Nathan Straus infant welfare clinics. That gave him the idea that possibly milk had something to do with the epidemic; so an executive order was issued that all milk distributed in the city of Chicago must be pasteurized, and up to 1922 a large percentage of the milk supply of Chicago was pasteurized.

DR. A. C. NICKEL, Rochester, Minn.: I should like to emphasize the fact brought out by Dr. Aycock concerning the occurrence of sporadic cases of poliomyelitis. Last summer, Dr. E. C. Rosenow and I saw about fifty-five cases of poliomyelitis within a radius of 75 miles of Rochester, and frequently we would see a case in a very secluded spot where contact infection was quite unlikely. In such cases Dr. Rosenow was able to get the same positive precipitin reaction from the nasopharyngeal swab as from practically every case in the epidemic zone. By this means Dr. Rosenow feels that he can diagnose the presence of the poliomyelitic streptococcus in the throat, and its presence in the throats of sporadic cases seems to be against the contact theory of infection. For example, in Rochester, during the epidemic, a family came home from a two weeks' vacation. We obtained a nasopharyngeal swab from the entire family the day they returned, and all were negative. The children were not allowed to leave the house, and although the father went out several times he did not come in contact with any families having the disease. However, in less than a week the entire family was positive to the precipitin test, and two weeks after the epidemic their precipitin test was again negative. Such facts seem to suggest possibilities concerning the diagnosis and epidemiology of poliomyelitis.

DR. W. F. DRAPER, Washington, D. C.: I should like to ask Dr. Aycock to outline what measures, if any, he would recommend health officials to take for the control of the spread of the disease and the protection of other people.

DR. W. L. AYCOCK, Boston: Dr. Leake mentioned healthy carriers. In typhoid, a carrier sooner or later comes to be suspected by reason of his being associated with repeated cases. My experience with poliomyelitis has been that frequently a healthy person has been associated with two cases in the same localized outbreak, but we never find the "healthy carrier" associated with repeated cases. He must be regarded more as a transmitter of the infection and not as a chronic carrier, as in typhoid. I think it must be borne in mind that when poliomyelitis occurs in small foci, it is not very difficult to find among the local population the "healthy carrier" pictured. Dr. Holt mentioned diagnosis. Practically every case of poliomyelitis that has occurred in Vermont since 1914 has been verified by the state department of health. We make it a practice to see every suspected case as soon as it is reported. Most of the cases show some paralysis; others, as a rule, are cases in which spinal puncture was done and cell counts were made. Milk was mentioned in connection with the Cortland, N. Y., outbreak. I hope I have not given the impression that it is a major factor in the spread of the disease. Milk can hardly be responsible for any very considerable proportion of cases of poliomyelitis. It may be regarded as one of the several modes of spread. In regard to the precipitin test, some simple test which would give some indication as to presence of the virus of poliomyelitis would further our knowledge of the epidemiology of the disease very much. As to measures for the prevention of poliomyelitis, I think of it now as a disease that may be spread in a number of ways. I prefer to take, perhaps first of all, something like typhoid precautions. Dr. Leake's emphasis on the gastro-intestinal route mode of spread is well worth considering. We should institute precautions against contact spread, upper respiratory secretion spread and the gastro-intestinal, not forgetting such things as house flies and raw food that may be contaminated. As for insect hosts, if we find a few more milk-borne epidemics it will go far to rule out that possibility. It would, indeed, be unusual if poliomyelitis could spread through milk and through insect hosts.

A Sterilizable Dialyzing Membrane.—Tests by medical authorities show that the use, as a sterilizable dialyzing membrane, of a new synthetic cellulose product (used principally for wrapping) will probably make practical a whole field of bacteriology as yet hardly explored. Donna E. Kerr and Dr. H. W. Hill, director of the Vancouver General Hospital Laboratories, made these tests, which are described in part in the *Vancouver Medical Association Bulletin* for February: "In searching for a sterilizable dialyzing membrane, a suggestion came from the Christmas boxes of candy wrapped in glistening sheets of 'paper.' The resemblance of this material to thin sheets of collodion induced me to try its dialyzing powers, which, for silver nitrate, sodium chloride and glucose, proved perfect. The next step was to test its resistance to sterilization. Fifteen pounds of steam for twenty minutes in an ordinary laboratory autoclave left it unchanged in appearance, feel, etc. Its dialyzing powers were still unaffected. The various uses of such a membrane in physics, chemistry, and especially in bacteriology and biology, both scientific and applied, are obvious and need not be enlarged on here. With any household cement, sheets of it may be made into tubes, flat, square or round bags, etc. Diaphragms of it may be cemented across bowls, beakers or glass tubes. So far as we have been able to discover, this material, known as cellophane, has not been previously advocated as a sterilizable dialyzing membrane."

THE ETIOLOGY AND TREATMENT OF PERNICIOUS ANEMIA *

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A paper on this subject might, if one were pessimistically inclined, be composed of two sentences: (1) We do not know the cause of pernicious anemia, and (2) we do not, as yet, possess a cure for this disease. Though these two statements are literally true, to make them without qualification would in the existing state of knowledge be very misleading. For, as I shall attempt to show, not only have important steps toward an understanding of the etiologic factors that must be concerned in the origin of this remarkable disease been made, but also we are already in possession of a number of therapeutic measures (ameliorative and perhaps remission productive, even if not actually curative) that may advantageously be applied to patients manifesting pernicious anemia. Moreover, with the growth of our knowledge of etiology and of pathogenesis, the paths that must be followed if we are to lessen the incidence of this serious disease are, I believe, coming more clearly into view.

RESTRICTION OF THE TERM "PERNICIOUS ANEMIA"

Though any severe anemia that progresses to a fatal issue merits the designation pernicious, for the purposes of this paper the term pernicious anemia will, as is now customary, be understood to refer only to the well known and definitely characterized Addison-Biermer type of chronic hemolytic anemia. It will not, therefore, include any of the other severe anemias, such as the primary aplastic anemias, the grave forms of so-called secondary and symptomatic anemias (after hemorrhage, during sepsis, with neoplasms, in the leukemias, or in chronic hemolytic jaundice).

The disease we are considering, though somewhat variable in its course, duration and response to therapy, presents, when fully devoloped, one of the most sharply marked clinical pictures known to nosographers, provided the general clinical symptoms, the course and the blood findings are all given due consideration. The severe anemia of insidious onset, the straw-colored tint to the skin, the asthenia, the slight fever, the disturbances of the digestive tract (sore tongue, achylia gastrica, and intestinal symptoms), the urobilinuria, the paresthesias of the hands or feet and other nervous symptoms pointing to disturbed function of the posterior and lateral columns of the spinal cord, together with a blood picture indicative, on the one hand, of increased blood destruction (anemia, leukopenia, reduction of the platelets and bilirubinemia) and, on the other, of increased blood formation but with reversion to the embryonal type (relative hyperchromemia, as shown by the high color index, megalocytosis, microcytosis, poikilocytosis, and the regenerative phenomena of polychromasia and erythroblastosis, particularly megaloblastosis) and a course that, though marked by the occurrence of exacerbations and remissions, is on the whole progressive, leading ultimately (after years or perhaps decades) to a fatal issue despite any form of therapy thus far discovered—these criteria are so clean-cut and so distinctive that they not only make the diagnosis easy, at least when the disease is full-fledged, but they also point to a unitary disease entity, for which the principal etiologic factor or factors at least must be constant, rather than to a mere clinical syndrome that could be due in different instances to principal pathogenic factors that are different and distinct from one another. Even in incipient cases in which the disease is still relatively latent, and in certain advanced cases in which through exhaustion of the bone marrow the blood picture may simulate that of an aplastic (or an aregeneratory) anemia, careful weighing of the clinical and hematologic evidence available will nearly always make it possible to assign the process to its proper nosological position.

MAIN FACTS TO BE ACCOUNTED FOR IN SEARCHING FOR THE CAUSE OR CAUSES OF PERNICIOUS ANEMIA

When the etiology of a disease is obscure, progress in the study of its causation will depend on (1) a careful collection of the facts bearing on the symptoms—the course of the disease (treated or untreated), the findings at necropsies on patients dead of the disease, the external conditions in which the persons who develop the disease have been immersed from the beginning of life on, and the internal conditions that may be ascribed to the heredity of such persons; (2) the arrangement of the facts in various ways with a view to the discovery of any probable relationships existing among them; (3) the brooding over the facts thus collected and arranged and of similar facts in other disease conditions in order that, through the imagination, solutions of the etiologic and pathogenic problem may occur to the mind; (4) the determination by a process of reasoning (deduction) of the implications of any tentative suggestions of solution that are entertained in order that the actual facts previously gathered (or these extended by further observation and experiment) may be compared with these implications for identities and discrepancies; and (5) the acceptance or rejection of the various tentative hypotheses formed according to the corroborative or refutative significance of such identities and discrepancies.

Among the main facts thus far collected in the domain we are considering may be mentioned the following:

1. A study of the incidence and distribution of the disease indicates that:

(*a*) It occurs in all countries of temperate climate but seems to be rare in the tropics, unless the severe anemias present in some patients suffering from sprue should be proved to be instances of true pernicious anemia.

(*b*) Pure negroes are rarely if ever affected by it.

(*c*) If only the so-called cryptogenic cases are considered, they make up from 0.2 to 0.45 of the white hospital population.

(*d*) Among white patients with pernicious anemia who enter hospitals, there are somewhat more men than women in Anglo-Saxon countries and somewhat more women than men in Germany, Finland and Scandinavia.

(*e*) The disease occurs apparently indiscriminately among the rich and the poor, among bodily laborers and mental workers, and among urban and rural dwellers, though it has been asserted that there has been a marked increase of its incidence in certain parts of central Europe since the Great War.

(*f*) It is distinctly a disease of later life, not occurring in childhood or during adolescence, and rarely between 20 and 30, but then increasing steadily in

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incidence during each quinquennium (in ratio of the number of cases to the number of persons of the same age alive) up to the age of 70.

(*g*) The disease is more common in certain families than in others, occurring in several lineal or collateral members of such families and occasionally in each of three successive generations by lineal descent.

2. A study of the anemia itself (which, like every other anemia, involves a failure of the equilibratory mechanism that normally makes blood formation keep pace with blood destruction or blood loss) indicates that:

(*a*) The disease is characterized both by an abnormally increased blood destruction (most marked during exacerbations of the disease) and by increased blood formation (though of anomalous type), at least until the hematopoietic function has become exhausted by the greatly increased demands made on it.

(*b*) The increased blood destruction occurs within the body itself, and mainly, if not wholly, through a process of chronic hemolysis carried on within the macrophages of the reticulo-endothelial system (spleen, liver, bone marrow and lymphadenoid tissue).

(*c*) This increased blood destruction is responsible for the bilirubinemia, the increased bile pigment in the feces, the urobilinuria and urobilinogenuria, the subicteric tint to the skin and sclera observable during life, and the siderosis of the organs at necropsy.

(*d*) The decrease in the number of the red corpuscles in the blood is accompanied by a decrease in the total number of white corpuscles present (leukopenia) dependent mainly on a reduction of the absolute number of polymorphonuclear neutrophils present (aleukia with relative lymphocytosis).

(*e*) There is also a reduction in the number of blood platelets (thrombocytopenia) with prolonged bleeding time, despite which there is, according to some observers, increased coagulation capacity of the blood and increased concentration in the blood of the coagulation ferment.

(*f*) The increased blood formation (regeneration) is revealed by the presence of immature red cells in the blood (erythroblasts, diffuse and punctate basophilia and Cabot's rings) and, as postmortem examinations have shown, by the replacement of the yellow marrow of bones by red marrow.

(*g*) The regenerative bone marrow response is of a peculiar kind, resembling the type of blood formation encountered in embryonal life, resulting in the presence in the blood of megalocytic red corpuscles (25 per cent or more of the red cells), of hyperchromic red corpuscles (accounting for the darker color of the individual red cells in fresh blood smears and for the high color index), and of megaloblasts as well as of normoblasts (both forms of erythroblasts often appearing in the blood in very large numbers during so-called blood crises).

(*h*) This form of bone marrow response may be demonstrable in early stages of the disease before the anemia develops (when the hemoglobin is still as high as 98 per cent of normal) and at later stages of the disease during remissions that may have led to the false idea that a cure of the disease has been effected.

3. A study of the structure and functions of the organs and organ systems (aside from the blood, the blood building organs, and the blood destroying tissues) in pernicious anemia indicates that:

(*a*) In the digestive apparatus, soreness of the mouth and tongue, associated with redness of the lingual and buccal mucosa and atrophy of the filiform lingual papillae, is very common. A marked tendency to gingivitis, dental caries, and apical periodontal infections exists; achlorhydria gastrica (usually total achylia) is constantly demonstrable; disturbances of intestinal motility and secretion are common; the bacterial and other mycotic flora of the gastro-intestinal tract (especially of the small intestine) may show marked deviations from the normal; to the fauna of the intestine there may, in some cases, be notable additions (*Bothriocephalus* or other worms and amebas); and at necropsy atrophies of the gastro-intestinal mucosa have been encountered as well as multiple inflammatory foci in the mucosa, more rarely narrowing of the lumen, and occasionally neoplasms.

(*b*) Within the nervous system, combined degenerations of the posterior and lateral columns of the spinal cord frequently occur, usually after (but sometimes before) the appearance of the characteristic anemia, and give rise to paresthesias and anesthesias, and sometimes to more or less outspoken motor and sphincter disturbances.

(*c*) In the endocrine and metabolic domains, there appear to be certain disturbances; some of these have been ascribed to disorders of function of the hypophysis, the thyroid, the suprarenals and the gonads, though it must be admitted that the signs and symptoms thus interpreted are but rarely sufficiently pronounced to permit of indubitable explanation; and a similar vagueness characterizes the results of studies of metabolism of proteins, carbohydrates, fats, lipoids, water and mineral salts in pernicious anemia.

(*d*) In the general bodily configuration, there have been observed certain peculiarities of the head (e. g., wide lower face, wide jaw angles, very large interpupillary space), the trunk (e. g., short chest and long abdomen) and of the extremities (e. g., length above the average).

4. A study of the therapy of cryptogenic pernicious anemia indicates that:

(*a*) The application of any one of a whole series of different forms of therapy, as shown below, may be followed by, and probably may favor, the occurrence of a remission of the disease process, so that the anemia may for a time largely disappear and the general health be greatly improved.

(*b*) Such remissions also occur spontaneously, in the absence of any therapeutic intervention.

(*c*) The duration of remissions is extremely variable (from a few weeks to several years), as is also the number of remissions that occur in different patients.

(*d*) Ultimately, unless earlier cut short by intercurrent disease, an exacerbation of the malady leads, despite the most diligent and skilful treatment, to a fatal termination.

CERTAIN HYPOTHESES THAT ATTEMPT TO EXPLAIN THE ETIOLOGY AND PATHOGENESIS OF PERNICIOUS ANEMIA

To discuss all the hypotheses that have been suggested, or even the more important ones in their full details, would vastly exceed the necessary limits of this paper. Accordingly, only the principal hypotheses will be mentioned, and my discussion of these will, perforce, be brief.

All patients, like all healthy people, are in the biologic sense to be looked on as human phenotypes; that is to say, as persons whose structures and functions have resulted from the interaction of materials and capacities inherited from their parents (in the

fertilized egg cell, or zygote) on the one hand, and of materials and influences in the environment, on the other.

Each human phenotype (healthy or diseased) at any given moment consists, then, of two parts: (1) a part acquired through inheritance—the so-called genotype—and (2) a part acquired from the environment—the so-called paratype. These terms have a precise biologic meaning and will, I hope, be used in preference to vaguer terms. If the term constitution be used, its user should make clear whether he intends the word to mean the whole phenotype, in which he would distinguish a genotypic part from a paratypic part of the constitution, or merely the genotype to the exclusion of the paratype. Similarly, when the terms endogenous and exogenous are applied to causes and conditions, they are used in different ways by different writers; for some, an "endogenous cause" means a cause of genotypic origin, and an "exogenous cause" means a cause arising in conditions external to the genotype, whereas, for others, an endogenous cause may mean merely a cause originating within the phenotype and an exogenous cause one external to the phenotype at the time it exerts its influence. Even in discussions of the etiology of pernicious anemia in medical literature, there are many references to "constitutional" and "environmental" influences, to "endogenous" and "exogenous" causes, and it is often very difficult to understand just what the authors have meant by the terms that they used. For the sake of clarity, therefore, in what follows I shall make use of the terms "phenotype," "genotype," "paratype" and "external conditions" in the senses in which they are now usually employed by biologists and geneticists.

The "pathologic phenotype" that we know as a "patient suffering from pernicious anemia" must owe its pathologic state (1) to an abnormality of the genotype, (2) to injurious external conditions acting on a phenotype of normal genotypic content, or (3) to both abnormality of genotype and certain injurious external conditions. Each of these three conceptions of etiology is easily recognizable in current discussions of the topic.

Most of the hypotheses of etiology regard the disease as an intoxication, the poison injuring not only the blood itself and the organs of blood formation and of blood destruction, but also a whole series of other organs (the digestive apparatus, the nervous system, the circulatory apparatus, kidneys and endocrine apparatus). That the blood serum in pernicious anemia is toxic has been shown by the phytotoxic experiments of Macht. But some seek the source of the "intoxication" in conditions external to the phenotype; others seek it within the phenotype itself (autointoxication) and attribute it to the inheritance of a pathologic genotype, while still others conceive of an intoxication that occurs only when inherited predisposing factors are combined with releasing factors that originate outside the phenotype. Here again the terms intoxication and autointoxication are often loosely and ambiguously used. Thus, for example, some conceive of the intoxication as due to the presence in excess of one or another of the normal constituents of the body; some would reserve the term for poisonings due to chemical substances not normally present in the body, and still others would extend the meaning of the term intoxication to include injurious influences dependent on a deficiency of substances normally present; for example, the increta.

HYPOTHESES OF ETIOLOGY ASSUMING PROVOCATIVE OR RELEASING FACTORS ORIGINATING IN THE ENVIRONMENT

The investigators who have conceived of an external source for the hypothetic poison of pernicious anemia have inclined to the view that this poison must be absorbed from some part of the digestive tract, and most of them have thought that it is formed somewhere within the alimentary canal.

Thus, because of the frequency of glossitis and of infections of the teeth and gums, English students of the disease have advanced the oral sepsis hypothesis of etiology. They regard the mouth infections as streptococcal and the general intoxication as due to streptococcus toxins. They explain the findings of streptococci in the duodenum and of inflammatory foci in the gastro-intestinal mucosa as being due to the achylia gastrica, since the loss of the natural hydrochloric acid barrier permits streptococci of oral origin to pass through the stomach unscathed. This conception of the etiology of pernicious anemia has not, as yet, met with general acceptance.

Again, because of the occurrence of pernicious anemia in persons who are infected with tapeworms (especially *Bothriocephalus latus*), Finnish investigators have thought that these worms themselves might be the source of the hypothetic poison, especially as a part, though not all, of the patients who suffer from "bothriocephalus anemia" get well after expulsion of the parasites. Out of this conception grew the lipoid hypothesis and the bothriocephalin hypothesis of the etiology of the anemia in worm carriers. But, besides the facts that only about 1 per cent of all persons infected with *Bothriocephalus* develop pernicious anemia and that those who do develop it may harbor only one or two tapeworms, whereas carriers of from seventy to ninety worms may remain free from the disease, experimental work with extracts of the worms and with lipoids from other sources has failed to corroborate these hypotheses.

An enterogenous origin of the poison of pernicious anemia has further been sought in an alteration of the flora of the intestinal contents; thus arose the intestinal flora toxin hypotheses, including the "pathologic *B. coli* strain conception," the "gas bacillus conception," the "*Monilia* of sprue conception" and other suggestions based on an intoxication of bacterial or mycotic origin within the intestine. None of these conceptions seem to me to have been supported, as yet, by sufficient facts. That any one of the influences mentioned may be of some importance as a contributing etiologic part factor may well be admitted, but the principal etiologic factor must, it would seem, be sought elsewhere.

HYPOTHESES OF ETIOLOGY ASSUMING PREDISPOSING OR DETERMINING FACTORS ORIGINATING WITHIN THE GENOTYPE

During the recent past, particularly since the revival of interest in constitutional pathology, the occurrence of pernicious anemia in several members of one and the same family in one or two generations (in one instance, in no less than three generations of lineal descendants) has attracted increasing attention. That such familial incidence of the disease points to an actual inheritance of a disposition to the disease rather than to an exposure of the members of the family in common to certain injurious external conditions has received considerable support. Thus, in certain instances in which a household consisted partly of blood

relatives, partly of persons of different stock, two or more of the former suffered from pernicious anemia, whereas none of the latter did so. Again, members of the same family have been known to develop this disease at different times or while living in different places. Moreover, there seems to be no evidence of any tendency to endemic incidence of the disease, unless the somewhat increased frequency of occurrence in tapeworm infested regions is so regarded.

A study of family trees in which pernicious anemia has occurred in more than one case (and especially in which lineal descendants have been affected through two or three successive generations) has given rise to the hypothesis that the disposition to the disease may depend on a mendelian dominant, perhaps on the hereditary transmission of a single pathologic id or gen. But if so, why should not familial incidence of pernicious anemia be more striking than it actually is? Ought not half or nearly half of all the members of the family be affected? Those who support the view of such hereditary disposition explain the small number of cases observed in affected families (1) by the fact that, since pernicious anemia is a disease predominantly of later life, many members of affected families die before the disease becomes manifest; (2) by the probability that many mild and atypical cases are overlooked, and (3) by the possibility that, in addition to the inherited disposition, certain releasing factors resident in external circumstances are also necessary in order that the disease shall become manifest, the phenotype remaining apparently healthy (despite its carrying the pathologic genotype constituent), because of the lack of this releasing factor or factors. For a time it was hoped that, by the "method of statistical summation" or so-called "kin-incidence method," the average incidence of the disease in a single generation might be determined and compared with the theoretical mendelian proportions; but, thus far at least, especially because of the late time in life in which the disease becomes manifest, the difficulties of application have been insuperable. The study of mendelian heredity experimentally in animals and plants is a wholly different matter from its study by observational and statistical methods in man.

Even if the occurrence of pernicious anemia should be proved in the main to be due to the inheritance of a genotypic disposition thereto, the actual pathogenic skein would still have to be slowly unraveled. It would be necessary to determine, for example, whether this genotypic disposition led to a primary inferiority of the bone marrow, or to a primary hyperactivity of reticulo-endothelial blood destruction, or to primary endocrine or neural disturbances that in turn remove inhibitory influences from the blood destroying apparatus or determine the peculiar form of response of the blood building apparatus. The relations, too, of the achylia gastrica, of the glossitis and defective teeth, of the funicular myelopathy, and of the general bodily configuration to the genotype would demand investigation; for the blood picture in pernicious anemia is only a single part of the larger symptom complexes that characterize this remarkable disease entity.

HYPOTHESES OF ETIOLOGY THAT ASSUME A COMBINATION OF GENOTYPIC FACTORS WITH FACTORS IN THE EXTERNAL CONDITIONS

Among those who lay greatest stress on factors in the external conditions (parasites, bacteria) as causes of pernicious anemia, there are many who admit also the significance of an inherited disposition that expresses itself in various ways (achylia; abnormal permeability of the mucosa of the digestive tract to toxic substances and "disease-readiness" of the bone marrow, of the reticulo-endothelial system, of the spinal neurons, or of the endocrine apparatus). The tendency at the moment seems to be to place the emphasis in etiology on genotypic main factors within the phenotype and to regard the factors in the external conditions as merely subsidiary or accessory part factors that release or provoke.

Some have gone far in speculation as to the possible chain of events in pathogenesis. Recently, a diminution of the internal secretion of the suprarenal cortex has been assumed to exist, and this hypofunction is looked on as removing the brakes from the phagocytic destructive activity of the reticulo-endothelial system, and to the latter an inferior bone marrow is assumed to respond by reversion to an embryonal type of blood formation, perhaps in the circumstances the most purposeful form of response. Others see in the changed type of blood formation a congenital inferiority of the erythropoietic apparatus, which gives rise to the production of red cells that are preternaturally vulnerable either to phagocytic engulfment and intracellular hemolysis or to hemolysis by toxins absorbed from the gastro-intestinal tract or other foci of parasitic invasion or of bacterial infection. Such bold speculations should not be valued at more than they are worth; they are useful only as they stimulate investigators to new and more precise observations or to experimental research.

TREATMENT AND PREVENTION OF PERNICIOUS ANEMIA

From what has been said of etiology and pathogenesis, it will be obvious that our ignorance is as yet too great to permit of the application of any entirely satisfactory causal therapy. If the main causative factor lies in an inherited disposition, it is conceivable that, in time, selective eugenics may be called on to lessen the transmission of the pathologic genotypic pattern. Even now, the intermarriage of members of families known to be subject to pernicious anemia might well be discouraged. Moreover, even in persons who are carriers of the predisposing gens, the disease actually becomes manifest only in a few. As our knowledge progresses, we shall doubtless discover why it remains latent in some who are disposed to it and why it comes to realization in others; and we may then find ways to support the inhibiting factors on the one hand, or to combat the releasing factors on the other, so as to maintain latency. Already something in this direction may, perhaps, be accomplished in families known to be susceptible by attention to measures that prevent the process of premature aging, especially through general bodily and mental hygiene, and the prevention or early treatment of oral sepsis and of intestinal parasitism. Recognition of the existence of glossitis or achylia gastrica, of abnormalities of intra-intestinal flora and fauna, of paresthesias suggestive of beginning funicular degeneration of the spinal cord or of megalocytosis before anemia develops may permit of the prompt application of a therapeutic regimen that will retard, if it does not wholly prevent, the development of more serious symptoms. Whether or not extracts of suprarenal cortex may prove valuable remains to be tested.

Unfortunately, the onset of the disease is so insidious that in most instances physicians are not consulted by the patient until the malady is fully manifest. The attempt has then to be made to bring about a remission and to maintain it. Since spontaneous remissions occur, there has been and still is great difficulty in determining the part played by therapy in the promotion of remissions. There are certain measures, however, that are now generally believed to be helpful, and on these I shall here lay most stress.

Bodily and Mental Rest.—The symptoms in pernicious anemia seem definitely to undergo exacerbation through fatigue, either of body or of mind. A period of rest in bed (thus compelling cessation of muscular exertion) and of protection from mental and emotional strains seems often to exert a favorable effect. During this period, care by a well trained nurse and massage skilfully applied are advantageous.

Removal of Foci of Infection and Expulsion of Intestinal Parasites.—The thorough treatment of pyorrhea alveolaris, the removal of areas of apical periodontal sepsis, and the expulsion of tapeworms and other parasites from the intestines may get rid of accessory causative factors and favor the occurrence of a remission. Discretion should, however, be used in the treatment of other possible foci of infections; radical surgical intervention for merely suspected infection of tonsils, gallbladder or appendix may do more harm than good in pernicious anemia.

Administration of Hydrochloric Acid.—Large doses of dilute hydrochloric acid (1 or 2 drachms [4 or 8 cc.] in a glass of water containing also the juice and pulp of an orange, thrice daily) may be given as a substitutive therapy because of the gastric achlorhydria. This acid therapy promotes more normal digestion, both in the stomach and in the intestines, and probably helps to keep the flora of the small intestine more nearly like that of persons who do not have achylia gastrica.

Establishment of an Anus Praeternaturalis or of Colonic Exclusion.—So convinced are some of the enterogenous origin of pernicious anemia that they recommend the making of an anus praeternaturalis or the exclusion of the colon by anastomosis of the ileum with the sigmoid. Prolonged irrigations of the colon for the removal of the hypothetic toxins is also often urged. The results thus far obtained would scarcely seem to justify the use of these surgical methods.

Blood Injections and Blood Transfusions.—Small quantities of human blood injected intramuscularly seem in many cases to be of benefit. Better still, the intravenous injection of from 200 to 500 cc. of blood from a suitable donor (infection free; of the same group as regards iso-agglutinins and cross matched with the blood of the recipient) may be made weekly until the hemoglobin reaches 85 per cent of normal. If a careful technic is employed, such transfusions are usually well borne. The beneficial results produced are often truly remarkable. The appetite improves, the patient feels stronger, and his general appearance quickly reveals progress toward a healthier state. Not only does the transplanted blood appear to substitute for the blood destroyed; it seems also to do something toward restoring the equilibrium between blood destruction and blood regeneration in the patient. At any rate, experience indicates that remissions of shorter or longer duration are frequently obtained by means of such transfusions.

Administration of Arsenic.—Solution of potassium arsenite (Fowler's solution), Asiatic pills, arsphenamine and arsacetin seem to be of value in favoring a remission. Recently, the arsenical shock treatment —the administration by mouth, or by subcutaneous injection, of a few large doses of arsenic—has been applied, in some instances, apparently with strikingly good results. How the arsenic acts is doubtful. Most physicians look on this drug as a stimulant to the blood building tissue, but is this tissue not overstimulated at all times in pernicious anemia? Because of its toxicity, I have wondered whether arsenic may not produce its good effects rather by inhibition of phagocytic activity within the reticulo-endothelial system. The administration of iron seems to be of no value in pernicious anemia.

Applications of Roentgen Ray, Radium and Thorium X.—These have been tried in patients in whom arsenical treatment and blood transfusions have not helped. I have not used them. The reports in the literature are not wholly convincing of their efficacy.

Splenectomy.—Treatment of pernicious anemia by splenectomy has, in some cases, been followed by a remission. It has been recommended especially when the spleen is large and when the process of blood destruction is very active, as shown by increased urobilinuria and bilirubinemia. If it exerts a good effect, it is probably because of removal of an important part of the reticulo-endothelial system, with corresponding reduction of blood corpuscle phagocytosis.

Other Measures.—A well balanced diet (suited to the patient's bodily and mental tasks and his caloric and vitamin requirements), bitter tonics to promote appetite when there is anorexia, a glass of sound wine with the principal meal "for the stomach's sake," cod liver oil after meals, residence preferably at a moderate altitude in an equable climate, where sunshine is abundant and sojourn in the open air is pleasant, cheerful surroundings, and as much encouraging psychotherapy as can conscientiously be administered—any or all of these may help to turn the scale in the direction of improvement.

SUMMARY

1. Though the causes of pernicious anemia are not yet fully known, clues to their nature are being obtained.

2. In any consideration of etiology, due attention should be paid to the peculiarities of incidence and distribution of the disease; to the fact that it is predominantly a malady of middle and later life; to the characteristic features of the blood picture and their relations to blood destruction within phagocytes and to blood regeneration of embryonal type; to the associated disturbances of the digestive, nervous and endocrine systems; to certain special marks in the bodily configuration; to the occurrence of spontaneous and of therapeutically inducible remissions of variable duration, and to the inevitability, in the present state of knowledge, of a fatal termination.

3. Of the many conceptions of etiology that have been advanced, the evidence at present favors hereditary (genotypic) predisposition as the main factor and various influences in the external conditions (especially poisons derived from bacteria, fungi or animal parasites in the digestive tract) as accessory releasing or provocative factors.

4. Parallel with the growth of hypotheses of etiology, conceptions of pathogenesis are being extended; the causes of the disturbances of equilibrium between blood destruction and blood regeneration (and their antecedents) are becoming clearer; the anemia is recog-

nized as only one part of a comprehensive disease entity in which the digestive system, the nervous system and the endocrine system are also involved, and investigators are now striving to establish correlatives among the various phenomena observable and to find the precise place in the malady as a whole that should be assigned to each integral part.

5. Treatment of the disease, though not curative, is rewarding. Through rest, the administration of dilute hydrochloric acid and of arsenic, injections of blood and other measures, the patient's condition can often be greatly ameliorated, and in many instances remissions of variable duration may be induced. Early recognition of achylia, paresthesias, glossitis, and of megalocytosis (before anemia develops) may permit of prompt treatment that will tend to keep the malady latent. Intermarriage of members of families in which the disease is known to occur should be discouraged.

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ABSTRACT OF DISCUSSION

DR. RUSSELL L. HADEN, Kansas City, Mo.: I was glad to hear Dr. Barker mention that pernicious anemia is a large symptom complex. I am sure we often overemphasize the anemia part. As we study more cases of this general type, we must realize that there are many patients in whom the same toxin is active without the development of a typical blood picture of pernicious anemia. This is well illustrated in the cases of combined sclerosis of the spinal cord due to the same fundamental cause. In these cases the anemia may be absent or an unimportant factor. I think Dr. Barker has correctly evaluated the present status of the experimental production of pernicious anemia in animals. It is true that macrocytic anemias have been produced, but this may be done by a large number of agents. Conclusions regarding an etiologic relation must be cautiously drawn. I feel sure that the value of hydrochloric acid in large doses cannot be emphasized too strongly in the matter of treatment. I always tell patients that if I had pernicious anemia, I would take hydrochloric acid the rest of my life. If cases were recognized early, and such treatment given, it is probable that the outlook would not be so hopeless. I have observed one patient whose case was correctly diagnosed pernicious anemia thirteen years ago. He still has the disease but is able to carry on his work successfully.

DR. HENRY A. CHRISTIAN, Boston: Two of my colleagues, Dr. Minot and Dr. Murphy, have been feeding pernicious anemia patients a high protein diet. The basic part of that diet, and the most important part, is from 120 to 140 Gm. of liver a day. At times sweetbread or kidney may be substituted for the liver. In addition, they get equal amounts of beef or mutton. All of these meats are cooked simply and not thoroughly done; that is, they are taken rare. In addition, these patients are encouraged to take green vegetables very freely, particularly those low in carbohydrates. They also get fruits, such as oranges, grapefruit, peaches and strawberries. They have rather a high feeding in the form of starch, as much as they will take of bread, potatoes, macaroni, spaghetti and cereals. They are limited in fats and in sweets. They take moderate amounts of hydrochloric acid, from 1 to 4 cc., six times a day, one dose just prior to a meal and one with the meal. No other medication and no other form of treatment is used. Forty-five cases are under observation, some for two and one-half years, the bulk of them falling within a year or a year and one-half. The important thing about this treatment is that the patients in a short time are able to eat this diet, and their blood builds up. In all the forty-five cases, with one exception, within a month there was a definite increase in the blood count and a definite improvement in the amount of hemoglobin, with general improvement. It is too soon to say that these patients will not have a remission. Two features in the laboratory examination are striking. In eight or ten days after they begin this diet, these patients get a very striking increase in the reticulated cells, and sometimes these reach as much as 15 per cent. At about that time, the red cells begin to increase in number and the hemoglobin increases. With the increase in the reticulated cells, the evidence of hemolysis, as shown by an increase in the bile index, lessens. The figure for the bile index decreases and very soon the bile index actually becomes lower than the average normal. Dr. Minot and Dr. Murphy do not regard this as a cure, but it is so simple, it is so easily carried out, and the patients we have are so comfortable on the treatment that it is worthy a trial. One interesting thing is that this rather large diet is soon taken by the patient without any great amount of difficulty. In the beginning, when the patient is nauseated, one must begin with a small amount of the various foods, but the surprising thing is that soon they are eating a large diet of these heavy, rather rich foods and they are much the better for it.

DR. W. L. BIERRING, Des Moines, Iowa: The remarks of Dr. Christian regarding the use of a diet rich in protein foods are so suggestive that I will cite an instance that may have a bearing on this plan of treatment. A farmer, aged 40, came under observation about sixteen months ago. The pernicious anemia changes developed rapidly. A year ago two blood transfusions were given, followed by a remission, so that by September, 1925, the erythrocytes had reached 4,500,000 per cubic millimeter. Later in the year he lapsed again, and by January of this year the red cells had dropped to 1,500,000. Two blood transfusions were again given with no benefit, and the anemia progressed, so that by February 25 the hemoglobin was reduced to 10 per cent and the erythrocytes to 560,000 per cubic millimeter. The patient left the hospital on this date, and was transported by ambulance to his home in the country, about 12 miles distant. His wife was a very intelligent woman, and, while recognizing his serious condition, begged the privilege of trying her own way of feeding him. At the hospital he had taken only a limited diet, yet under the influence of home cooking, he soon developed a keen appetite, and, unbelievable as it may seem, within ten days after leaving the hospital, he was eating with a relish nine meals in twenty-four hours. Two or three times during the night he called for food. During the last six weeks his wife has fed him a large T-bone steak and nine eggs each day. In examining her diet list one day, it was noted that she gave special prominence to foods rich in iron, vitamins and proteins. Evidently appreciating the purpose of giving dilute hydrochloric acid, she gave 15 drops well diluted after each of the nine meals. My interest becoming aroused, I visited him twice a week in order to observe his progress and make personal blood examinations. The blood condition steadily improved, and last Friday, eight weeks after leaving the hospital, the hemoglobin was 85 per cent, and the red cells numbered 4,600,000 per cubic millimeter. The cells in the stained blood spreads are difficult to distinguish from normal erythrocytes. His general appearance corresponds to the remarkable improvement in the blood state. He walks about, has a good color, and is always in the best of spirits.

DR. EUGENE S. KILGORE, San Francisco: A physician who is a good observer, and who has pernicious anemia himself, assures me that there is a difference in the value of blood donors independent of hemoglobin percentage, etc. His hemoglobin at one time was down to 17 per cent. He has received fifty-five transfusions in the last few years. Most of them were of very transitory benefit until finally he received one from a large boned young woman suggesting the acromegalic type, after which he obtained a definite remission. Six months later, when he began to slip a little again, he secured another transfusion from the same source, and since then he has remained well and in active practice for thirty months. He is keeping track of that woman.

DR. LEWELLYS F. BARKER, Baltimore: Dr. Haden has spoken of the toxic nature of the disease. The general opinion is that pernicious anemia is due to an intoxication. In my paper I have pointed out that the term "intoxication" is used in a rather loose way. It is often difficult to know just what is meant when a writer uses the word. He may

refer to the action of an exogenous poison or of an endogenous poison, or he may refer to the effects of the diminution of some normal substance in the body that allows something else to become "toxic," because it is not balanced by the first factor. If heredity is the main causal factor in pernicious anemia, it will have to be found out just how it predisposes to the disease. It is possible that the achylia gastrica, the tendency to degeneration of the white columns of the spinal cord as well as the disequilibrium between the blood-destroying functions of the reticulo-endothelial system and the blood-building functions of the bone marrow, are all expressions of the pathologic inheritance. That the blood serum in pernicious anemia is definitely toxic appears to have been shown by the phytotoxic tests of Dr. Macht. Dr. Christian's remarks on the dietetic treatment have interested me much. Some years ago Dr. Thomas P. Sprunt and I read a paper on the treatment of pernicious anemia by means of the rest cure in which general upbuilding treatment was combined with the feeding of large amounts of milk and eggs in addition to an all-round mixed diet. Many patients got remissions quickly and without transfusions. The Boston workers lay emphasis on the high purine content of their diet. One could test the validity of their view, perhaps, by trying the administration of pure purines along with a diet that is poor in purines and contrast the effects obtained with those following a purine-poor diet alone. As Dr. Bierring has pointed out, the Boston diet is rich not only in purines but also in vitamins, especially when liver is fed. It may be that the benefit we get from administering cod liver oil is largely due to the vitamins it contains. The amount of fat seems small; but the vitamin content may be very important. I can't believe that foods rich in iron are of especial importance in pernicious anemia, for the body is "loaded" with iron in that disease; there is extensive siderosis of the organs.

CANCER, VITAMIN IMBALANCE, AND ROENTGEN-RAY ACTIVITY *

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Hopes for the proper and precise use of roentgen rays and the rays of radium depend primarily on a knowledge of their action on the tissues and means of administering them in a qualitative and quantitative manner. In previous articles [1] we have outlined a method for measuring these rays in electrostatic "e" units and also a method of investigating for the first time the effects of a definitely known type or quality of roentgen-ray energy on the cells and the tissues. The roentgen ray can produce as well as destroy cancer. It has become evident, therefore, that when we know more about cancer, some of the more important effects of roentgen rays on the tissue will not only become known, but the effect of growth stimuli in general will also become unraveled. One of the most interesting peculiarities of cell stimulants is that all of them in overdoses destroy the cells. Roentgen rays evidently belong in this class.

The solution of cancer demanded first the solution of two important problems. The first of these problems is whether the cell is the dominating factor in man and the higher animals, or whether other more general formative forces determine the form of the body and the general activity of its cells. The second problem is whether cancer belongs in the class with other infectious diseases, as many recent authors [2] have tried to prove, whether it is merely the release of the cell of forces dominating it in the organism, or whether it is the result of a special differentiation of the cell.

Recent careful work on cancer has shown that the active independent growth of the cells in this disease is not the result of any specific invading organism or other agent. It has now been shown that cancer can be produced by any one of a number of different conditions and substances, such as coal tar, other lipoid solvents, roentgen rays, radium, bacteria or animal parasites. In man it occurs most frequently in tissues suffering atrophy, in old inflammatory processes, and in congenital and other forms of benign tumors.

Further studies on the action of coal tar, radium, roentgen rays and animal parasites have shown that while they are capable of inducing cancer they are not necessary for its subsequent course. Cancer once induced by them proceeds then always independently of them. Cancer is not the result, therefore, of any specific agent, but is evidently an active independent growth of body cells induced by any one of a number of different conditions or substances. It is therefore either the result of some differential change in the cell or a change in the environment which releases the cell from those forces which dominate it in the normal organism and compel it to work for the whole.[3]

In previous articles,[4] one of us has shown that this change is not primarily in the cell but in the environment. Cancer is the release of the cells from some unknown general force or forces that dominate and control its activity in the normal organism. The body cell is probably not different, therefore, from other cells in nature as far as its general make-up is concerned. The conditions that allow it to be dominated by other forces in the body are to be found in small peculiarities of its structure.

Many of the older workers in general biology and medicine had already appreciated that body development is not a product of the cell but of other much more general formative forces. This idea is clearly expressed in the works of Hofmeister, Sachs and DeBary, as well as in the later works of Driesch, Hertwig, Whitman, Ribbert and others.[5] It remained for the tissue culture to give absolute proof of this belief. In these cultures it has been shown that the changes which the cell undergoes from maturity to death—growth, differentitation and function—are not changes peculiar to it, but merely a reaction that it may suffer under the influence of different conditions in its environment. In the cultures it is possible to change actively contracting embryonic heart muscle cells into actively growing ones, which invade the medium and have the appearance of sarcoma cells, and then change these cells back to actively contracting ones or change them into cells which resemble fibroblasts by simply changing the environment about them. These changes are induced by changing not the chemical but merely the mechanical conditions about the cells in the cultures.[6]

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It became evident, therefore, that whether the cells of the body are to grow as cancer or to differentiate and function for the whole depends on their immediate environment or forces external to the cell which regulate these environmental conditions about them. The secrets of cancer and the forces governing normal development and body structure lay, therefore, in the further study of these environmental conditions.

As noted in previous papers,[7] the conditions suitable for the cells to grow independently are crowding, stagnation and oxygen. Normal cells crowded into a small drop of stagnant medium in a tissue culture grow readily. This growth can be stopped by separating the cells, by increasing the relative amount of medium about them, or by washing them with a stream of serum or salt solution.

Under conditions of less crowding, the embryonic cells in the cultures differentitate into adult types. Function maintains in these cells when one end is in contact with a stagnant mass of cells, or is bathed by fluids flowing from such masses, and the other end is free from these conditions. The latter facts were determined by a study of embryonic muscle cells in the tissue cultures.[8] These cells, when crowded in the culture, revert quickly to simple growing or sarcoma-like cells. When scattered in the medium, they differentiate into fibroblasts. When they become placed so that one end is in contact with a stagnant mass of cells or fluid coming from such a stagnant mass and the other end is in contact with a part of the medium into which any substance may escape, which may be formed in the metabolism of the cells, they contract rhythmically. All types of function in the body depend evidently on this polarization of the cells. The type of function, on the other hand, is dependent on the particular cell polarized. The nerve cells are stretched between the dense brain tissue and an end organ. The gland cells are stretched between a stagnant duct and a rich vascular supply without.

Applying these facts to the animal organism, it became evident therefore that cancer may be only the result of anything that leads to a local crowding of cells in the organism and a relative reduction in the blood supply to the mass. Normal function, on the other hand, is the result of forces external to the cell which have caused the development of the structure peculiar to the body and the blood vascular system.

In proof for such a conception, it has been found that those substances and conditions which induce cancer act always to form such a dense, stagnant organization.[9] Drops of coal tar induce cancer in that they attract the cells to them away from their intercellular substances and blood vessels, and crowd them about their peripheries.[10] Animal parasites, bacteria, roentgen rays and radium produce the same organization in that they cause the cells to proliferate in the tissues without the formation of blood vessels and intercellular substances. They are thus able to build stagnant masses of cells which, when reaching sufficient dimensions, are able to grow independently.[11]

In analyzing for the significance of the conditions of cell crowding, oxygen and stagnation, it has been found that they are important because growth depends on the presence of a certain high concentration of a substance or substances, which has been called the archusia (S). The archusia (S) is formed by the cells in proportion to the oxygen absorbed. It is readily soluble in salt solution, plasma, serum and the circulating fluids of the body. Wright[12] has recently shown that it dialyzes also readily through celloidin membranes. This substance cannot be retained by the cells in the presence of an active circulation. It can accumulate about the cells in quantities sufficient for growth only when a sufficient number of cells are liberating it a small stagnant area from which it cannot escape.

This substance can be extracted with salt solution from any actively growing tissue. These extracts act on other cells treated with them. Extracts of the archusia of body cells excite activity not only in all types of body cells, but also in other cells of nature; and extracts containing the archusia of one animal or bacteria excite activity also in another animal's cells.

Further studies of the action of the archusia (S) has shown that it is important not only for growth, but all activity in tissue cells. In low concentrations, S^1, this substance has no effect. In medium concentrations, S^2, it stimulates the cells to migrate, differentiate and function. In high concentrations, S^3, it causes the cells to grow and divide. In all higher concentrations, S^4, the cells suffer a self-digestion in its presence. This self-digestion is not the same as autolysis occurring in the absence of oxygen. No toxic substances are liberated by it. It is similar to the degeneration seen in the center of cancerous nodules.[13]

In applying the latter facts to the animal organism, it was found that cancerous tissue contains always an S^3 and S^4 concentration of the archusia. The normal organism, on the other hand, contained no such quantities of this substance. The blastomeres of the egg, when crowded in cultures, are unable to form enough of this substance for their growth. This inability of these cells to form this substance disappears with the yolk granules in them. At the time of the disappearance of the yolk granules, the circulation is too great in the embryo for the cells to form and retain ample archusia for their independent growth. They can grow independently only when this circulation is disturbed. Later in the development and adult life it was noticed that the cells are again unable to form the necessary amount of the archusia for their growth unless they are washed first with plasma or other lipoid solvents. The latter change in the conditions of body tissue appears with their differentiation and the development of intercellular substances about them.

A more careful study of the formation of intercellular substances in the body and the storage of fat in the cell has shown that these acts are instituted by a lipoid substance liberated by the cells. The cells draw fats and proteins into themselves through the liberation of this lipoid and the absorption of it by these proteins and fats. The extracellular substances of the body are extracellular proteins coagulated by it. This substance has been called the ergusia (L). It is formed by the cell in its growth reaction and is evidently the active substance that draws water and other substances into the cells during growth. This substance acts to inhibit growth when added in excess to a growing system.[14] The inhibition of activity in the blastomeres

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and in the cells of later life is the result of an excess of this substance.

While these observations were interesting, the question arose, How does the body grow—whence does the stimulus for growth arise which maintains the organism and leads to the development of the blood vascular system? Is the perfectly regulated growth of the body due to the fact that the body cells have been overloaded with growth inhibitor by the mother so that they must depend on an external supply of the growth stimulus, the archusia? Is this overabundance of growth inhibitor, the ergusia, which the body has imposed on itself and the mother on the egg cell only in fact something which nature has imposed on the cells of the organism and made them grow to form the higher types of living things? Is man merely the product, first, of a universe which has been filled with an excess of archusia and ergusia, and, secondly, of certain cells that are easily affected by this supply?

It is now absolutely certain that higher forms of animal and plant life are dependent for their existence on certain specific substances in their diet which have been called vitamins. The most important of these substances are vitamins A and B. These vitamins are not essential for the life of many unicellular organisms. In fact, vitamin A inhibits the growth of these organisms: While vitamin B stimulates their growth, they can grow without it because they can readily form it.

In studying more carefully the general conditions for the growth of normal body cells, it has been found that while the blastomeres are unable to form ample archusia for growth, they can be made to grow by the addition of archusia to the medium about them. While the ergusia is formed in the cell during its growth, there is no evidence that it is formed in the cell during its period of differentiation and function; yet it is evidently being used at all times by the differentiated cells in laying down intercellular substances, in the storage of fat and, as shown in other papers, during their functional acts.[8] There is no evidence that the excess of ergusia in the body is the result of any activity in it. It must be supplied, therefore, from without. In studying more carefully the properties of the archusia and the ergusia, it was found that they are similar to the properties of vitamins B and A, respectively. It has also been found that the archusia fed to animals replaces the necessary vitamin B in their diet.[15] Ergusia removed from the body can be replaced again by feeding vitamin A.[16] Vitamin A is a product of the protoplasm of any growing cell in nature.[17] It is not liberated by these cells during their growth but only when they are caused to suffer digestion and destruction in the presence of an excess of archusia. Vitamin B is only the archusia liberated by any growing cells in nature. Actively growing and nontoxic yeast and bacteria liberate only vitamin B. When these cells are allowed to overgrow their cultures and are destroyed by an S[4] concentration of their own archusia, vitamin A is liberated. It is evidently formed in nature in the manure pile and in the molding leaves and other putrefactive processes. It is picked up from these sources by the fats of plants and thence passed on to animals and from animal to animal.[17] It has also been shown that the yolk of hen's eggs contains large quantities of archusia or growth stimulus necessary to cause the blastomeres to grow,[18] and by feeding the tissues of embryos it has been shown that their vitamin A value varies exactly as their ergusia content. Cancerous tissues contain large quantities of vitamin B, but no vitamin A. Coal tar produces cancer not only in that it draws cells together into dense masses, but in that it dissolves and removes the vitamin A from these tissues. It not only removes the growth inhibiting substances from about the cells, but crowds them so that they may form and retain ample archusia or vitamin B for their growth. The cells thus become independent of any external supply of growth energy. Cancer is, therefore, only the result of anything which so disturbs the vitamin balance of the tissues. The normal organism comes into existence only as these vitamins are imposed on its cells in the proper proportions.

THE ACTION OF GROWTH STIMULANTS

It was these facts which gave the possibility for the first time to study the nature of the action of growth stimulants in general and the action of light rays in particular. Any substance or force causing the cells to form an excess of the archusia (S) or vitamin B must cause them to grow or degenerate, depending on the amount of archusia liberated and retained about them.

Lights may act, therefore, in this capacity. They may not form vitamin A from simple fat as many authors[19] have believed recently, but they may act simply to break the combination between the vitamin A and the fats that have dissolved it. They may cause the formation of vitamin A only through a primary excessive formation of vitamin B in living cells.

To prove or disprove this possibility, it had become of interest to study the effect of roentgen rays on animals fed on a normal dietary and others fed dietaries deficient in vitamins B and A, respectively. In previous papers it had been shown that animals fed from fifteen to thirty days on diets deficient in either vitamins B or A are more resistant to large doses of roentgen rays than animals fed on a normal diet. These animals fed on a diet deficient in vitamin B survive longer than those fed on a diet deficient in vitamin A. It had also been shown that repeated small doses of roentgen ray prolong greatly the life of rats fed on a diet deficient in vitamin B, but has no or very little effect on animals fed on a diet deficient in vitamin A. Certain rats can be made to live apparently indefinitely on a diet containing no B, if given the proper amount of roentgen ray. Two rats placed on a minus B diet, March 15, 1925, are still living. They have grown normally, have normal hair and are active. Their only abnormality is that they do not breed. Two other rats of the same series died after seventy-five and eighty-seven days, respectively. These rats received 150 milliampere minutes (204 "e" units) of roentgen ray, March 28, 1925. A second and similar dose was given, June 7. A third dose of the same amount was given, October 28. These rats have been kept for the last three months in a screened bottom cage through which all feces fall. They have evidently lived entirely on their deficient diet.

The life of other rats fed on a diet deficient in vitamin B and given 13 "e" units of roentgen ray twice a week have been prolonged also, but not to the great extent of the rats given the few larger doses. They

15. Burrows, M. T., and Jorstad, L. H.: On the Source of Vitamin B in Nature, Am. J. Physiol. **77**: 24 (June) 1926.
16. Jorstad, L. H.: J. Exper. Med. **42**: 221 (Aug.) 1925.
17. Burrows, M. T., and Jorstad, L. H.: On the Source of Vitamin A in Nature, Am. J. Physiol. **77**: 38 (June) 1926.
18. Wright, G. P.: On the Presence of a Growth Stimulating Substance in the Yolk of Incubated Hen's Eggs, Proc. Soc. Exper. Biol. & Med. **23**: 603 (April) 1926.
19. Hess, A. F.: The Ultraviolet Rays of the Sun, J. A. M. A. **84**: 1033 (April 4) 1925. Steenbock, Harry; and Daniels, Amy L.: Irradiated Foods and Irradiated Organic Compounds, ibid. **84**: 1093 (April 11) 1925.

succumbed after 170 days, and their growth curve never reached the normal limit.

The life of rats fed on a diet deficient in vitamin A was not noticeably prolonged by giving 13 "e" units of roentgen ray twice a week.

In the experiments to be reported in this paper, it had become of interest to see whether the larger repeated

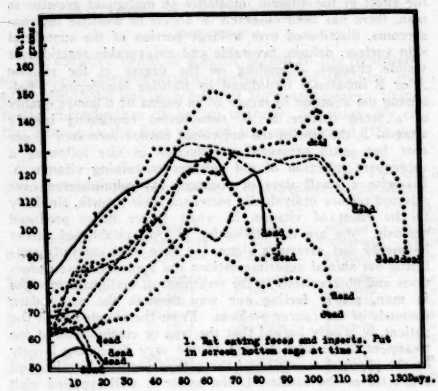

Wt. in grams.
1. Rat eating feces and insects. Put in screen bottom cage at time X.
dead
10 20 30 40 50 60 70 80 90 100 110 120 130days.

Chart 1.—Growth curves of rats fed on a diet deficient in vitamin B: The solid lines are the growth curves of the controls which received no roentgen ray. The checked and dotted lines are the growth curves of rats given 25 and 50 milliampere minutes (34 "e" and 68 "e" units) of roentgen rays, respectively.

doses would not protect the rats on a minus A diet as well as those on a minus B diet. As noted in the foregoing, vitamin A is liberated by the cells in the presence of a high vitamin B value. Larger doses of roentgen ray should liberate greater quantities of vitamin B, and this greater quantity should in turn liberate vitamin A.

In this series of experiments, groups of rats fed on a diet deficient in vitamin B and on a diet deficient in vitamin A, respectively, were given 34 "e" and 68 "e" units of roentgen rays, respectively, twice a week. Under the latter conditions it was found that the rats on a vitamin B deficient diet have a normal growth curve (chart 1). The same normal growth curve is also seen in these rats fed on a diet deficient in vitamin A and given the larger dose of roentgen rays (chart 2). In both instances the rats succumbed, however, after from 100 to 130 days.[20]

COMMENTS AND CONCLUSIONS

Cancer, in the light of these studies, is only the result of anything that leads to an excessive production of vitamin B or removes the vitamin A or growth inhibitor from small areas of tissue in the body. Roentgen rays act only to increase the vitamin B content in the tissues. In the proper dosage, therefore, it may produce cancer as it may through the excessive production of vitamin B destroy cancer. Cancer is only the result of a vitamin imbalance. Normal life depends on a proper balance between vitamins A and B. The problem of the cure of cancer is the restoration of this balance. The problem of the prevention of cancer is the prevention of such imbalances taking place.

Roentgen rays act on the organism to produce vitamin B. Larger doses of these rays lead to the liberation of larger amounts of vitamin B with a secondary production of vitamin A. These larger doses of roentgen rays lead always to an early exhaustion of the rat, while larger doses repeated over long intervals do not cause this early exhaustion.

The roentgen ray becomes important in the cure of cancer in that it liberates an excess of the archusia or vitamin B from the cells when given in the proper doses. As must be noted, the cancerous tissue contains already a high content (S^3) of the archusia. Only a slight stimulation is sufficient to increase this amount to a value of S^4, which causes the cells to degenerate. The normal tissue contains much less archusia. The same dose acting on them may not even cause them to grow.

The first problem, as is evident, for the advance of roentgen-ray therapy is a proper and well controlled dosage. The second problem is to produce the proper reaction in the surrounding normal tissues. Too great a dose on these tissues must cause a decrease in blood supply and make them more favorable for the spread of the cancer. The prevention of this spread of the cancer is the protection of the blood vascular system in these regions. As shown above, the vascular system is only the path of inflow of the vitamins from without. It is maintained through a proper balance of vitamins A and B. The progress in roentgen-ray therapy, as is evident from these studies, will come first through the establishment of a uniform method of measuring (one of us [21] has undertaken and instituted methods for

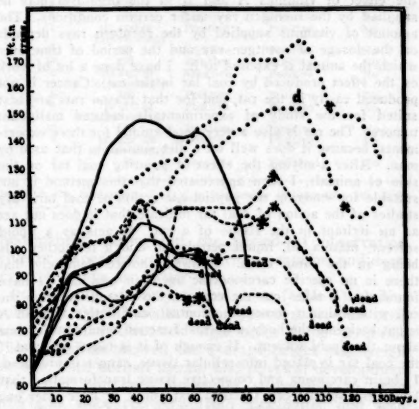


Chart 2.—Growth curves of rats fed on a diet deficient in vitamin A: The solid lines are the growth curves of the control rats which received no roentgen rays. The checked and dotted lines are growth curves of rats given 25 and 50 milliampere minutes (34 "e" and 68 "e" units) of roentgen rays, respectively; *d*, diarrhea; * xerophthalmia.

such procedure), and the establishment of proper dietary and nutritional conditions in the patient before such therapy is instituted.

20. The minus A diet consists of: potato starch, 80 Gm.; egg albumin scales, 50 Gm.; salts (McCollum), 10 Gm.; Crisco, 30 Gm.; Vegex, 10 Gm. The minus B diet consists of: potato starch, 80 Gm.; egg albumin scales, 50 Gm.; salts (McCollum), 10 Gm.; butter, 30 Gm.

21. Ernst, E. D.: Radiology **5**: 468 (Dec.) 1925. Preliminary Report of the Committee on Standardization of X-Ray Measurements, Radiology **6**: 191, 1926.

ABSTRACT OF DISCUSSION

DR. FRANCIS CARTER WOOD, New York: This paper is complicated and highly theoretical, but the conclusions are very important, provided they can be confirmed. Every one realizes the importance of the bodily condition of the patient for successful therapy, and that cachectic and septic patients do not do well under irradiation. In correlating the effect of the vitamins on any tumor reactions while irradiation is applied to the whole animal, it is difficult to get an accurate end-point because the death of the animal is not caused directly by the irradiation but secondarily, often through destruction of the blood-forming organs. Even with the same dose, given to a large number of rats, death will occur in some in one day and in others not for four or five days. One difficulty with the theories in this paper is that they do not explain why, for example, tar painting produces epithelioma in mice and not in rats. It is hardly possible to assume that the vitamins in the two animals are different.

DR. L. H. JORSTAD, St. Louis: Dr. Burrows and I have studied this cancer problem. Dr. Burrows has studied it for a great many years, and it was through this study that it was possible for him to isolate the growth stimulus in the tissue culture and find the relationship between it, the archusia and the ergusia. In later studies we have found that the archusia in the body is vitamin B and the ergusia is vitamin A; and, as Dr. Ernst painted out, the balance between these two vitamins makes normal function possible and an imbalance produces abnormal function or behavior of cells in the organism. What I want to emphasize is certain points in the general biologic phase of this problem. Dr. Wood criticized the use of the rat in this kind of experiment. We have a strain of rats that has been running in our laboratory for eight years and we know pretty well the life history of these animals. We know how long they live and have accumulated sufficient data to interpret the significance of weight curves under different conditions of experimentation. In regard to the question of the effect of the roentgen ray, there is no doubt that it is entirely rational to conclude that the effect of vitamins A and B in the organism may be supplied by the roentgen ray under certain conditions. The amount of vitamins supplied by the roentgen rays depends on the dosage of roentgen ray and the period of time over which the animal is exposed to it. I have done a lot of work on the effect produced by coal tar in the rat. Cancer is not produced easily in the rat, and for that reason rats are best suited for the study of experimentally induced malignant tumors. The rat is also a very good animal for these experiments, because it does well on a diet similar to that used by man. After studying the effect of painting coal tar on the skin of animals, I soon appreciated that this method is not suitable for studying the physiologic action of coal tar. My studies of the action of coal tar indicate that it does not act as an irritant in the tissue of a rat. It acts as a lipoid solvent, mazola oil, liquid petrolatum and a few other oils being in the same class. Kenway showed definitely that there is no specific carcinogenic agent in coal tar. I have found that it takes out the ergusia, the vitamin A, from the cell with which it comes into contact, and if this vitamin A is put back into the body, a normal function results in the zone about the lipoid solvent. If enough of it is taken out, and if the coal tar is placed into cellular tissue, cancer is produced. I obtain carcinoma and connective tissue transformation that looks like spindle cell sarcoma sixty days or later after one injection of coal tar into experimental embryoma of rats. Cancer is not the result of irritation, but of a specific kind of change produced in the tissue which causes the vitamin B fraction of the organism to increase and the vitamin A fraction to decrease quantitatively.

DR. H. J. ULLMANN, Santa Barbara, Calif.: I understood Dr. Ernst to say that rats given 0.24 unit three different times to a total of 0.72 unit were not fertile. Is that correct?

DR. ERNST: It is.

DR. ULLMANN: That is rather interesting. We are irradiating rats with fertility in view. A female rat was given 0.75 unit over a period of thirty-seven weeks, 0.02 unit a week. She had two litters. The first one she ate, and the second litter is now healthy and going to be used for the second generation. The male parent of these rats received the same dose. The unit referred to is 1,300 E.

DR. EDWIN C. ERNST, St. Louis: The question of sterility in this last rat experiment was merely an incidental observation. It is well known, of course, that an improper vitamin balance may influence propagation. From the standpoint of the effect of the vitamin imbalance on malignant growths in man, there has been observed in a case of multiple melanosarcoma, distributed over a large portion of the superficial skin surface, definite favorable and unfavorable reactions or visible changes, depending on the degree of the vitamin A or B imbalance introduced by *Bacillus tumefaciens*. Following the injection by means of an enema of a known quality of a fresh culture of *B. tumefaciens* containing largely vitamin B, the size of the individual tumors increased 50 per cent, but again presented a reduction in size following a subsequent injection of old cultures containing vitamin A. Likewise a small dose of roentgen ray administered over selected tumors individually increased their growth, similarly to the effect of vitamin B, while larger doses produced necrosis. We are not attempting to cure established cancer lesions by diet measures alone, but have been carefully analyzing our animal experimentations and applying these deductions and observations to the treatment of malignant growths in man, slowly feeling our way through the many dark channels of the cancer problem. From the standpoint of the patient, it is only logical that the type or combination of the treatment to be administered should vary depending largely on the physical condition of the patient and the location and character of the tumor. If the tumor is well supplied with vessels, then vitamin B and roentgen-ray irradiation may be the more effective method. However, a well localized large tumor in a cachetic patient will require either a well balanced vitamin diet or foods containing high vitamin A values in combination with moderate roentgen-ray doses by the fractional method. All these clinical observations, however, will require further practical study and corroboration as to the systemic and localized effect of the vitamins on both the patient and the tumor under treatment.

Butter, Beef and Yeast as Pellagra Preventives.—Trials of butter in a daily quantity of about 140 Gm. (5 ounces) using a Georgia product had practically invariably failed to prevent recurrence of pellagra. Trials with a Vermont product proved no more favorable than those with the Georgia butter. Butter would seem to be poor, or lacking, in the pellagra-preventive factor or factors. The pellagra-preventive action of a daily allowance of 200 Gm. (7 ounces) of fresh meat in the form of lean beef was tested and found capable of completely preventing the disease, thus proving that fresh beef contains the pellagra-preventive factor or factors. The beef-supplemented diet, though adequate for pellagra prevention, was, during about half of the period of study, slightly deficient in the beriberi vitamin. The pellagra-preventive action of a dried yeast extract was tested in a daily quantity of 15 Gm. (half an ounce) and found efficient in preventing the disease. The yeast-extract-supplemented diet was adequate to prevent pellagra, but, during a part of the period of observation, was slightly deficient in beriberi vitamin. The results of the studies presented are believed to strengthen the interpretation of those previously reported, namely, that in the prevention and presumably causation of pellagra there is concerned a heretofore unrecognized or not fully appreciated dietary essential (factor P-P), and to indicate the probability that this may play the sole essential rôle in relation to the disease. It is briefly pointed out that the substances that have been found to possess black tongue-preventive potency have, when tried in pellagra, been found efficient preventives of the human disease, and that those that had failed in pellagra, or were of low pellagra-preventive potency, when tried in black tongue have failed, or were feeble, as preventives of the canine disease.—Goldberger, Joseph; Wheeler, G. A.; Lillie, R. D., and Rogers, L. M.: *Pub. Health Rep.* **41**:312 (Feb. 19) 1926.

SPORADIC MENINGOCOCCUS MENINGITIS

SEQUELAE FOLLOWING SPECIFIC SERUM THERAPY IN INFANCY AND EARLY CHILDHOOD *

STAFFORD McLEAN, M.D.
AND
JOHN P. CAFFEY, M.D.
NEW YORK

The curative value of specific serum in the treatment of sporadic meningococcus meningitis in infancy and early childhood has been evident for many years. Prior to the introduction of serum therapy, the mortality of the disease in the first year of life approached 100 per cent. In infants under 1 year of age treated by us with serum, recovery occurred in approximately 50 per cent. In children between the ages of 1 and 5 years, 85 per cent recovered. The later growth and development of these children with apparent complete recovery from their acute infection is of interest and of considerable importance. We have observed forty-four such cases (excepting two patients who died in the first year after discharge from the hospital) over a period varying from one to ten years, and these form the basis of our report.

In ninety-seven patients with meningococcus meningitis treated with serum at the Babies' Hospital in the ten year period from 1916 to 1926, recovery occurred in fifty-nine, or 61 per cent. These cases were all of the sporadic type, since the disease has not appeared in true epidemic form in New York City in the period covered in this study. The diagnosis in forty cases was proved by finding meningococci in the cerebrospinal fluid. In the remaining four, the diagnosis was made because of the purulent character of the fluid in which no organisms of any variety could be found. The serum used was polyvalent. It was made in the laboratories of the New York State Department of Health, of the Health Department of New York City, or of the Rockefeller Institute. The patients varied in age from 35 days to 4½ years.

Follow-up examinations have been made in forty-four of the fifty-nine cases. Twenty-five of these patients have been observed for three years or longer, and in this group, fifteen have been under observation from five to ten years after treatment. In the total number of cases followed, thirty, or 69 per cent, presented no abnormalities throughout the period of observation. Nine, or 20 per cent, showed serious sequelae, and death occurred in five, or 11 per cent.

In the group of thirty normal cases (table 1) nothing worthy of special mention was found except an occasional positive Chvostek sign or a tache cérébrale. These children showed the average height and weight for age, with normal mental and physical development. They had not been unusually susceptible to other infections since recovery from meningitis, and were active and healthy. In none was there any evidence that the early meningeal infection or the intrathecal treatment had caused subsequent impairment of intellect. The older children had made average progress in school. There were no cases of endocarditis, arthritis, pericarditis or any other extrameningeal sequelae occasionally found following meningococcemia. In adults, pain, stiffness of the lower back, disturbance of gait and paralysis of the bladder and rectum have been considered sequelae of local injury secondary to repeated lumbar puncture and serum injection into

TABLE 1.—*Data in Normal Cases*

Patients	Period of Observation	Present Age	Age at Time of Treatment	Day of Disease Treatment Began	Number of Days of Treatment	Total Amount in Cc. of Serum Injected Intrathecally	Organisms		Obstruction of Subarachnoid Space*
							Culture	Smear	
D. H.	10½ months	12 months	5 weeks	2	5	137 and 30 intravenously	Positive	Positive	Yes
R. A.	12 months	15 months	3 months	6	21	125	Negative	Positive	Yes
M. S.	9⅝ years	10 years	3 months	5	3	95	Positive	Positive	No
B. H.	3½ years	4 years	4 months	4	4	90	Negative	Positive	No
J. N.	7⅞ years	8 years	4 months	18	7	140	Positive	Positive	Yes
R. W.	8 years	8½ years	6 months	9	11	190	Positive	Positive	No
S. N.	5 months	11 months	6 months	7	4	95 and 30 intravenously	Positive	Positive	No
M. G.	6⅞ years	7⅛ years	6 months	31	9	70	Negative	Positive	No
J. J.	9 months	15 months	6 months	5	4	80	Negative	Positive	No
A. J.	1 year	18 months	6 months	20	4	83	Positive	Positive	Yes
J. N.	5½ years	6 years	6 months	8	19	170	Negative	Negative	No
H. L.	1⅞ years	2¼ years	7 months	22	4	46	Negative	Negative	No
H. D.	3⅞ years	4½ years	7 months	1	17	209	Negative	Positive	No
J. T.	4 years	4⅝ years	8 months	7	7	140	Negative	Positive	No
L. T.	1 year	1⅝ years	8 months	4	3	140	Positive	Negative	No
T. W.	3¼ years	4 years	9 months	16	4	97	Positive	Positive	Yes
J. M.	11 months	1⅜ years	9 months	2	4	95 and 40 intravenously	Positive	Positive	Yes
A. S.	8½ years	9½ years	1 year	33	4	80	Positive	Positive	No
A. R.	7 years	8 years	1 year	22	10	90	Negative	Positive	No
I. B.	1 yr. 11 mo.	2 yr. 11 mo.	1 year	8	5	129	Negative	Positive	No
F. LaR.	1⅛ years	2 yr. 7 mo.	13 months	4	6	83	Negative	Negative	No
T. S.	7 years	8⅛ years	14 months	22	11	143 and 40 intravenously	Positive	Positive	No
L. P.	5 years	6½ years	1½ years	15	5	110	Negative	Positive	No
A. S.	6⅛ years	8½ years	22 months	5	10	175	Positive	Positive	No
A. A.	1¾ years	3 yr. 7 mo.	22 months	2	6	135 and 25 intravenously	Negative	Positive	No
D. K.	19 months	4 yr. 1 mo.	2½ years	32	5	140	Positive	Positive	Yes
A. S.	1½ years	4½ years	3 years	4	8	180 and 40 intravenously	Positive	Positive	No
L. D.	10 years	13 years	3 years	5	10	200	Positive	Positive	No
J. McC.	1 yr. 7 mo.	5½ years	3 yr. 11 mo.	15	6	120 and 240 intravenously	Positive	Positive	No
J. R.	3 years	7½ years	4½ years	4	4	60	Negative	Positive	No

* The phrase "obstruction of subarachnoid space" is used in text and tables with the realization that it is impossible to ascertain the exact point of obstruction in cases showing "blocking."

* From the Department of Diseases of Children, Columbia University College of Physicians and Surgeons, and the Babies' Hospital.

* Read before the Section on Diseases of Children at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

the lumbar spine. None of these symptoms developed in this group. There were no instances of relapse after recovery or a reinfection with the meningococcus.

In the nine patients showing sequelae (table 2) four were cases of deaf-mutism, two of hydrocephalus, two of impaired vision, and one of mental deficiency.

In the four deaf-mutes (9 per cent of the total cases), there were no associated sequelae. Only one received treatment during the first week of the disease. These patients were discharged from the hospital at the ages of 4 months, 6 months, 14 months and 30 months, and on final examination before discharge, deafness was not detected nor had it been a recognized symptom before treatment was begun. It was impossible to determine accurately from the parents' observation when the deafness was subsequently noted. All four infants had bilateral nerve deafness, probably as a result of early involvement of the eighth nerve occurring prior to the introduction of serum. The discovery in the follow-up of four previously unsuspected cases of deaf-mutism suggests that caution must be used in giving a prognosis until the patient is old enough to cooperate satisfactorily in tests for hearing.

TABLE 2.—*Sequelae*

Patients	Period of Observation	Present Age	Age at Time of Treatment	Day of Disease Treatment Began	Number of Days of Treatment	Total Amount in Cc. of Serum Injected Intrathecally	Organisms: Culture	Organisms: Smear	Obstruction of Subarachnoid Space	Fluid on Discharge	Type of Sequelae
J. B.	2½ yr.	2 yr.	4 mo.	14	17	123	Negative	Positive	Yes	10 cells	Deaf-mutism
F. M.	7½ yr.	7½ yr.	4 mo.	29	6	70	Negative	Negative	No	60 cells	Hydrocephalus
M. M.	1⅝ yr.	2¼ yr.	5 mo.	5	6	120	Negative	Negative	Yes	106 cells	Hydrocephalus
S. P.	8 yr.	8½ yr.	6 mo.	11	5	75	Positive	Positive	No	90 cells	Deaf-mutism
C. E.	6½ yr.	7 yr.	8 mo.	4	7	175 and 45 intravenously	Negative	Positive	No	70 cells	Feeblemindedness
D. G.	2½ yr.	3½ yr.	12 mo.	21	4	250	Positive	Positive	No	20 cells	Impairment of vision
E. A.	2 yr.	3½ yr.	18 mo.	9	10	127 and 80 intravenously	Positive	Positive	No	8 cells	Impairment of vision
A. P.	4 7/12 yr.	6½ yr.	22 mo.	14	11	165	Positive	Positive	No	130 cells	Deaf-mutism
P. M.	3¼ yr.	5⅝ yr.	2½ yr.	4	5	77	Positive	Positive	No	130 cells	Deaf-mutism

as there was neither clinical nor laboratory indication at the time treatment was completed that hydrocephalus would develop. This patient gave no history suggesting a relapse after treatment or the occurrence of a second meningeal infection. In another case (M. M., table 2), hydrocephalus was present before the treatment was begun. C. E. (table 2), with mental deficiency, seen last at the age of 7 years, is the single instance of permanent mental impairment in the entire group of cases.

In the five patients in whom death occurred (table 3), one lived two months after treatment, one four months,

TABLE 3.—*Deaths*

Patients	Period of Observation	Age at Death	Age at Time of Treatment	Day of Disease Treatment Began	Number of Days of Treatment	Total Amount in Cc. of Serum Injected Intrathecally	Organisms: Culture	Organisms: Smear	Obstruction of Subarachnoid Space	Condition on Discharge from Hospital	Cause of Death
D. L.	3 years	3 years, 3 months	3 months	5	4	120	Negative	Positive	Ventricular; lumbar	3,600 cells	Unknown
P. M.	1 year, 3 months	1 year, 3 months	3 months	6	23	162 and 40 intravenously	Positive; blood positive	Positive	Ventricular; lumbar; cistern	500 cells; discharged as hydrocephalus	Hydrocephalus (necropsy)*
L. P.	4 months	6 months	4 months	22	12	88	Negative	Positive	No	800 cells	Unknown*
M. C.	2 months	7 months	5 months	15	6	105	Negative	Positive	No	40 cells; sent home in good condition; died 2 months later	Marasmus
I. C.	3 years	3 years, 9 months	9 months	36	7	140	Positive	Negative	No	500 cells	Unknown*

* Unfavorable response to serum therapy.

In the two patients with impaired vision, E. A.[1] (table 2) showed ocular involvement throughout the disease. She had extensive purpura, meningococci in the blood and purulent iridochoroiditis before serum therapy was begun. The purulent inflammation of the eye subsided after intravenous and intrathecal injection of serum. Within five months following treatment, an opacity of the lens developed, with complete loss of vision in the affected eye. This was secondary to contraction of the plastic exudate in the anterior part of the vitreous chamber, which caused a disturbance of the nutrition of the lens. In the second case (D. G.), the follow-up observation did not permit of detailed examination of the eye. The history obtained was that of complete blindness in one eye and strabismus, which developed shortly after discharge from the hospital and continued for seven months. Eventually there was slight improvement of vision, but the strabismus persisted.

There were two cases of hydrocephalus. In one (F. M., table 2), it was an entirely unsuspected sequel, one fifteen months, and two thirty-six months. P. M. (table 3), the infant who died fifteen months after treatment, was reported hydrocephalic at necropsy. This patient showed obstruction to the flow of cerebrospinal fluid during treatment and developed hydrocephalus before leaving the hospital. This was a complication rather than a sequel of the disease. In L. P. (table 3), treatment was begun late in the disease; no clinical improvement occurred under treatment, although the cerebrospinal fluid showed a diminution in the number of cells. Death occurred four months after discharge from the hospital. In the remaining three cases, the

1. McLean, Stafford; and Gilmartin, H. A.: Cerebrospinal Meningitis with Purulent Iridochoroiditis, Am. J. Dis. Child. 27:603 (June) 1924.

exact cause of death could not be determined from the reports available to us, although there were no indications that it was related to the meningeal infection.

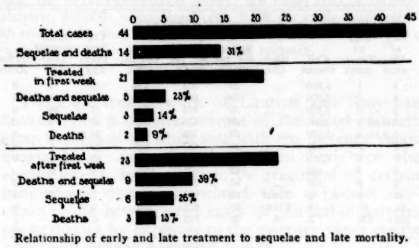
Table 4 shows the relationship of the incidence of sequelae to age at time of infection. The cases are divided into three groups representing the first half year of life, the second half year of life and patients more than 1 year of age. There is little difference in the percentage of sequelae in the three groups (21, 16 and 23 per cent, respectively). The mortality of 21 per cent in the youngest group, as compared with 8 and 0 per cent, suggests that after successful treatment in the first half year of life the prognosis as to survival is less favorable than in the two older groups.

TABLE 4.—*Relationship of Mortality and Sequelae to Age at Time of Infection*

Age in Months	Total Cases	Normal Cases	Sequelae	Deaths	Total Unfavorable Cases
From 0 to 6 months...	19	11 (58%)	4 (21%)	4 (21%)	8 (42%)
From 6 to 12 months..	12	9 (75%)	2 (17%)	1 (8%)	3 (25%)
More than 12 months..	13	10 (77%)	3 (23%)	0	3 (23%)
Total.....	44	30 (69%)	9 (20%)	5 (11%)	14 (31%)

Various observers have stressed the necessity for the administration of serum early in the disease if a cure is to be expected, and the incidence of sequelae is to be minimized in those who recover. The influence of early and late treatment on the incidence of sequelae is represented in the accompanying chart. Cases in which treatment is carried out during the first week of the disease are classified as "early treatment," with due consideration for the obscurity of symptoms in the first months of life. Patients in whom treatment was not begun until one week after the onset of symptoms are classified as "late treatment." The occurrence of sequelae in 39 per cent of the cases of the second group as compared with 23 per cent in the first group suggests the value of early treatment in the prevention of sequelae, though observations in a larger number of cases would have greater significance

The presence of obstruction to the flow of cerebrospinal fluid in the acute stage of meningitis is often indicative of permanent hydrocephalus as a sequel, and often makes impossible the injection of serum in sufficient amounts by the lumbar route. There seems to exist a prejudice against the administration of serum except by the lumbar route, even when blocking of this avenue of entry obviously indicates injection into the cistern or the ventricles. There were eleven such cases (table 5) in which the ventricles or the cisterna magna were resorted to for administration of serum. In the follow-up examinations, three of these eleven patients showed hydrocephalus. One of these succumbed fifteen months after treatment, and one was hydrocephalic when seen twenty-two months after treatment. Both had hydrocephalus before discharge from the hospital. Hydrocephalus in the third developed later and was severe at 7½ years of age. The remaining eight patients were free from hydrocephalus, and in none of these was there evidence of organic nerve lesion due to "needling" the ventricles or the cisterna magna, although in several instances serum was repeatedly injected by these routes. The two youngest patients in table 4 are good examples of the complete and permanent recovery after vigorous treatment by cistern and by ventricles.



Relationship of early and late treatment to sequelae and late mortality.

Of special interest is D. H.[2] (table 6) admitted to the hospital at the age of 35 days, who illustrates rather

TABLE 5.—*Data in Eleven Cases Treated by Cistern and Ventricular Injections*

Patients	Period of Observation	Present Age	Age at Time of Treatment	Day of Disease Treatment Began	Number of Days of Treatment	Total Amount in Cc. of Serum Injected Intratheeally	Organisms: Culture	Organisms: Smear	Symptoms	Site of Treatment	Present Status
D. H.	10¼ mo.	12 mo.	5 wk.	2	5	137 and 30 intravenously	Positive	Positive	Convulsions	7 cistern punctures	Normal
R. A.	12 mo.	15 mo.	3 mo.	6	21	125	Negative	Positive	Bulging fontanel fever, irritability	5 ventricular punctures	Normal
J. N.	7⅝ yr.	8 yr.	4 mo.	18	7	140	Positive	Positive	Irritability, retraction of head, bulging fontanel	3 ventricular punctures	Normal
A. J.	2 yr.	2½ yr.	6 mo.	20	4	83	Positive	Positive	Fever, vomiting, retraction of head	1 cistern puncture	Normal
T. W	3¼ yr.	4 yr.	9 mo.	16	4	97	Positive	Positive	Vomiting, tremors, convulsions	1 cistern, 1 ventricular	Normal
J. M.	11 mo.	20 mo.	9 mo.	2	4	95 and 40 intravenously	Positive	Positive	Drowsiness, rigidity of neck	4 cistern punctures	Normal
D. K.	19 mo.	4 yr., 1 mo.	2½ yr.	32	5	140	Positive	Positive	Strabismus, stupor, convulsions	3 cistern punctures	Normal
J. R.	2⅝ yr.	3 yr.	4 mo.	14	17	123	Negative	Positive	Convulsions, fever, vomiting, rigidity of neck	3 cistern punctures	Deaf-mutism not noted on discharge Hydrocephalus
M. M.	22 mo.	2¼ yr.	5 mo.	5	6	120	Negative	Positive	Vomiting, large head, rigid neck	1 cistern puncture	Death at 3¼ years, cause unknown
D. L.	3 yr.	3¼ yr.	3 mo.	5	4	120	Negative	Positive	Stupor, rigid neck, bulging fontanel	3 ventricular punctures	Death at 3¼ years, cause unknown
P. M.	15 mo.	18 mo.	3 mo.	6	23	162 and 40 intravenously	Positive; blood positive	Positive	Drowsiness, restlessness	3 cistern, 3 ventricular punctures	Death at 18 mo., necropsy hydrocephalus

2. Reported in detail by Sturtevant, J. M.: Meningococcus Meningitis with Recovery in a Seven Weeks Old Infant, J. A. M. A. **86**: 1436 (May 8) 1926.

strikingly that even the youngest infant with blocking of the spinal subarachnoid space below the level of the cisterna magna may recover entirely from the infection and show no sequelae if proper treatment has been given. It might be expected that, in an infant of this age with sufficient blocking to require cistern treatment, hydrocephalus would be a probable sequel; but when the child was last seen, at the age of 12 months, eleven months after treatment, she was normal in every respect.

TABLE 6.—*Data of Recovery Without Sequelae in Infant Aged Five Weeks, With Complete Obstruction of Subarachnoid Space, Treated Entirely Through the Cistern* *

		Cerebrospinal Fluid						
Day of Disease	Day of Treatment	Cell Count	Globulin	Sugar, Chloride, mg. per 100 Cc.	Mg. per 100 Cc.	Organisms	Cistern Therapy	Intravenous Therapy	Serum Rash
2	1	4,600	....	30	663	Yes	20	0	0
3	2	5,200	....	29	682	Yes	20	0	0
4	3	1,780	....	25	675	Yes	17	30	0
5 a.m.	4	1,900	....	35	675	No	20	0	0
5 p.m.	4	1,520	....	38	700	No	20	0	0
6	5	540	....	29	688	No	20	0	0
7	6	2,100	....	40	700	Yes	20	0	0
8	7	840	....	38	675	No	0	0	..
9	8	220	....	37	700	....	0	0	0
10	9	40	Trace	43	688	No	0	0	0
54	53	8	Trace	55	675	No	0	0	0
233	232	0	0	56	713	No	0	0	0

* Chief complaint, convulsions and vomiting twenty-four hours; no meningeal symptoms when first puncture was done; patient afebrile. Lumbar puncture indicated because of history of convulsions. Total serum, 167 cc. Treatment second day of disease with prompt improvement in fluid; no recurrence of symptoms; last two findings particularly interesting because of spinal fluid examinations on the 54th and 233d days. Infant survived two later severe infections, bronchopneumonia at the 54th day, and bacillary dysentery on the 233d day; normal one year after treatment.

R. A. (table 7) admitted at the age of 3 months, presented a similar case except that the serum was injected into the ventricles with five punctures on successive days. When last seen at the age of 15 months, one year after treatment, she was normal.

TABLE 7.—*Data of Infant Treated by Intraventricular Injection of Serum Because of Subarachnoid Obstruction* *

		Spinal Fluid					
Day of Disease	Amount, Cc.	Cells	Polymorphonuclears, per Cent	Lymphocytes, per Cent	Serum Given, Cc.	Site of Injection of Serum	Organisms
6	10	12,800	100	..	10	Lumbar spine	Yes
6	10	11,600	100	..	10	Lumbar spine	—
7	5	1,800	72	28	5	Lumbar spine	—
8	5	1,200	76	24	15	Ventricle	—
9	15	500	95	4	10	Lumbar spine	—
10	5	900	90	10	15	Right ventricle	—
13	10	960	92	8	10	Right ventricle	—
14	5	—	—	—	10	Left ventricle	—
17	5	175	20	80	..	Lumbar spine	—
23	5	175	18	82	..	Lumbar spine	—
27	25	80	27	73	20	Lumbar spine	—
28	15	105	25	75	..	Lumbar spine	—
29	7	1,580	22	78	..	Lumbar spine	0
30	..	.....	..	..	..	Both ventricles	—
35	10	150	17	83	..	Lumbar spine	0
42	15	88	23	77	..	Lumbar spine	0
55	5	.....	..	..	..	Lumbar spine	—

* Patient, R. A., aged 3 months. Treatment begun on the sixth day of disease. Total serum, 105 cc. Complete recovery; normal one year after treatment.

SUMMARY

1. Forty-four infants with sporadic meningococcus meningitis, from 35 days to 4½ years of age, treated with antimeningococcus serum and observed from one to ten years after treatment, developed the following serious sequelae in nine of the cases; deaf-mutism, four cases; hydrocephalus, two cases; visual impairment, two cases and mental deficiency, one case.

2. Five patients died during the period of observation.

3. Thirty are alive and normal in every respect.

4. Of eleven patients in whom serum was injected into the ventricles and cisterna magna because of obstruction of the subarachnoid space, eight made complete permanent recovery.

17 East Seventy-First Street.

TREATMENT OF IDIOPATHIC PURPURA HEMORRHAGICA

BY EXPOSURE TO MERCURY VAPOR QUARTZ LAMP: PRELIMINARY REPORT *

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AND
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The treatment advocated for idiopathic purpura hemorrhagica is entirely symptomatic in nature, with chief emphasis placed on checking the hemorrhage and replacing the lost platelets. Heretofore, the most satisfactory method of treatment has been the transfusion of blood, although the beneficial effects are usually transient.

In their study of the effect of light and of darkness on the constituents of the blood, Laurens and Sooy [1] have observed a stimulating influence of direct sunlight and an inhibitory influence of darkness on the number of red blood cells and platelets in white rats. Furthermore, they [2] have observed a more pronounced stimulation of these elements of the blood after exposure of white rats to the mercury vapor quartz lamp. This stimulating influence of light therapy on the blood platelets was quite obvious after three daily exposures of six minutes at a distance of 2 feet.

This knowledge, with the fact that the most characteristic pathologic finding in idiopathic purpura hemorrhagica is a reduction in the blood platelets, suggests a more rational method of treatment. Furthermore, it is suggestive that other hemorrhagic conditions associated with a deficiency in the blood platelets might respond to similar methods. On this basis, we have applied the mercury vapor quartz lamp with benefit in the treatment of idiopathic purpura hemorrhagica, in hemorrhagic disease of the new-born, and in the preoperative preparation of jaundiced patients showing a platelet deficiency and a tendency to bleed.

It is our purpose in this communication to make a preliminary report of the results of the treatment of idiopathic purpura hemorrhagica by exposure to the mercury vapor quartz lamp. During the last year, we have treated ten cases of this disease. One half of these cases have been observed during an acute phase, while the remaining ones have been of the chronic variety. In two instances, the treatment was used as a method for the preoperative preparation of patients in need of surgical attention; in one instance, for the extraction of several teeth in a woman who had bled profusely for three days after a recent tooth extraction,

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1. Laurens, Henry; and Sooy, J. W.: The Effect of Light and of Darkness on the Blood Cell Number of the Growing Albino Rat, Proc. Soc. Exper. Biol. & Med. 22:114 (Nov.) 1924.

2. Laurens, Henry; and Sooy, J. W.: Unpublished data.

and in a second patient with a marked hemorrhagic diathesis, on whom a tonsillectomy was indicated. These procedures were followed by a normal convalescence free from bleeding.

A complete report of this group of cases is now being prepared. In this communication, a typical case will be reported briefly in order to give a concrete illustration of the changes in the blood picture and the progress of the disease during treatment by this method.

METHOD OF TREATMENT

The method of treatment in these cases has been as follows:

On the first day the patient was given two exposures of six minutes each, at a distance of 13 inches, on the entire dorsal and ventral surfaces of the body. The exposures were increased daily by three minutes for five days, after which the exposure may be increased in daily increments of ten minutes. It is rarely necessary to increase the exposure beyond twenty-eight minutes.

This procedure gives a massive exposure and may produce a somewhat painful hyperemia. In such cases, the treatment is omitted on the following day. No serious burns have been observed.

REPORT OF CASE

A girl, aged 12, was referred to the New Haven Hospital, June 4, 1925, by Dr. William McGuire, with the complaint of frequent bleeding from the nose. The family and personal history were irrelevant.

Effect of Mercury Vapor Quartz Lamp Treatment on Blood Findings

Date	Treatment in Minutes*	Red Blood Cells	Platelets	Minutes: Coagulation Time	Minutes: Bleeding Time	Minutes: Complete Retraction
6/ 4/25	4	2,500,000	108,000	5	25	90
6/ 6/25	4	2,500,000	138,000	5	21	86
6/ 8/25	4	2,500,000	242,000	4	12	59
The patient had a severe cold and did not come to the hospital for treatments. June 13, 1925, she had slight epistaxis						
6/13/25	12	2,200,000	152,000	5	22	76
6/15/25	12	2,600,000	192,000	5	21	75
6/17/25	12	2,900,000	206,000	4	15	59
6/19/25	12	3,200,000	320,000	4	11	51
6/21/25	12	3,400,000	406,000	4	11	48
6/23/25	12	3,600,000	500,000	4	10	48
6/25/25	12	3,900,000	546,000	4	7	41
6/26/25	Treatments discontinued					

* The figures represent the duration of each exposure as given on the dorsal and ventral surfaces of the body.

The present illness commenced three years previously, with occasional slight bleeding from the nose. The bleeding was small in amount, and occasionally came on while the patient was asleep. The bleeding gradually became more frequent and more profuse. One year previously, the bleeding came on about twice a week. Since that time she had rarely had a free interval longer than three days. She had frequently bled as often as twice a day. The bleeding was usually small in amount, its duration varying from two to fourteen hours.

In January, 1925, the patient bled for three hours from a small laceration, in spite of attempts to control it by pressure. A few weeks later, she bled profusely following the extraction of two lower molar teeth. The bleeding stopped after an intramuscular injection of whole blood.

May 11, epistaxis commenced and continued for the ensuing twenty-nine hours. She was confined to bed for three weeks. She had had two subsequent severe hemorrhages; during the latter, she was seen by Dr. McGuire, by whom she was referred to the New Haven Hospital.

She was quite pale and anemic. The nostrils were packed with blood stained cotton. There were numerous petechiae and ecchymoses over the trunk, back and extremities. They varied in size from minute spots up to ecchymoses 5 cm. in diameter. The physical examination was otherwise negative.

Blood examination showed: red blood cells, 2,500,000; platelets,[3] 108,000; white blood cells, 11,600 per cubic millimeter. Coagulation time[4] was five minutes, and bleeding time twenty-eight minutes. Complete retraction of the clot required ninety minutes. The diagnosis was idiopathic purpura hemorrhagica.

Treatment with the mercury vapor quartz lamp was commenced immediately. The effect on the treatment is shown in the accompanying table.

Feb. 13, 1925, the patient was able to attend school for the first time in three years. Her general condition had been good. There had been no clinical manifestations of purpura. The blood platelet count had remained normal. At the present time, the blood examination shows: red blood cells, 4,100,000; platelets, 468,000; white blood cells, 9,100 per cubic millimeter; bleeding time, four minutes; coagulation time, five minutes; complete retraction of clot, thirty-nine minutes.

SUMMARY

The experimental work of Laurens and Sooy has demonstrated a definite increase of the blood platelets after irradiation of white rats with the mercury vapor quartz lamp, and offers a rational basis for the application of this method to the treatment of certain hemorrhagic diseases associated with a platelet deficiency. We have treated cases of idiopathic purpura hemorrhagica by exposure to the mercury vapor quartz lamp with definite beneficial results.

The case reported here illustrates the effect of this treatment on the disease. When the patient was first seen, June 4, 1925, the platelet count was 108,000 per cubic millimeter. She was given five daily exposures to the mercury vapor quartz lamp. On the fifth day, the platelet count was 242,000 per cubic millimeter. On account of a severe cold, the patient did not appear for treatments until five days later. At this time, the platelet count had fallen to 152,000, and there was slight epistaxis. Daily treatments were commenced, and after twelve days (June 25) the platelet count had risen to 546,000 per cubic millimeter. The treatments were discontinued about eight months ago, and there have been no further evidences of the disease. The blood platelet count has been maintained at the normal level.

The number of cases that have come under our observation has been small, and on account of the relatively short time interval absolute conclusions cannot be drawn. However, the results are favorable in comparison with other methods of treatment. We hope that this report will stimulate further study, so that the value of this application of the mercury vapor quartz lamp may be accurately determined.

Further investigation is in progress, and a detailed report of all cases observed will be made in a later communication.

3. The platelets were counted by the method described by J. W. Sooy and Henry Laurens (A Method for Counting Blood Platelets in the Rat, Proc. Soc. Exper. Biol. & Med. **22**: 116 [Nov.] 1924) modified for clinical use. The normal count is between 400,000 and 600,000 per cubic millimeter.

4. The coagulation time and complete retraction time were determined in all instances by a new capillary tube method that will be described in an early report. By this method the coagulation time in the majority of normal individuals falls between five and eleven minutes, and the time for complete retraction between thirty and forty-five minutes. The bleeding time was determined by Duke's method.

Tuberculosis and Cancer.—It will be seen that tuberculosis has killed 96.7 per cent of its total victims before they reach the age of 65, while cancer at the same age has secured only 60 per cent of its total victims.—Newsholme, Arthur: Present Position of Tuberculosis Problem, *Lancet*, May 29, 1926.

SCARLET FEVER FOLLOWING NOSE AND THROAT OPERATIONS *

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An interesting and rather frequent type of surgical scarlet fever is that following operations on the mouth, nose and throat. The wound in these cases is in the region most likely to harbor streptococci, and corresponds to the portal of entry for ordinary nonsurgical scarlet fever. One would therefore expect the infection to be more frequent than after operations elsewhere. Of forty-eight cases classed as surgical scarlet fever at the Durand Hospital, from 1902 to 1926, twenty followed operations, thirteen of which were on the nose and throat. The development of the disease in these patients may of course be merely a coincidence, but from their frequency, some relationship between the operation and the scarlet fever seems probable. Occasionally, the patient may be infected by the operator or instruments, as in an instance described later. He may harbor the organisms in the nose or throat previously, but resist their invasion until the open wound gives them an opportunity to enter the tissues in large numbers. Or the operation may simply facilitate subsequent infection from the outside, either from a person with scarlet fever or from a carrier of the streptococci.

In the literature, there are numerous examples of scarlet fever following tracheotomy. In 1892, Koch [1] reported fifteen such cases in children with diphtheria. These occurred in the form of an epidemic, and a few children who were not operated on also had the second disease. Sörensen [2] reported the cases of three sisters with diphtheria; the two older ones had tracheotomies followed in a few days by attacks of scarlet fever, while the youngest, not operated on, escaped. Davidovitch [3] saw three cases of scarlet fever occurring four, eight and eighteen days, respectively, after tracheotomy. The interval in the last case is, of course, rather long for any connection between the two events. Port [4] observed a patient who developed scarlet fever eight days after a tracheotomy, not for diphtheria.

In addition to the tracheotomy cases, Davidovitch [3] saw a case of scarlet fever, which began three days after an operation for a tumor of the gums. Gussenbauer [5] reported the removal of a papilloma of the tongue, with the early symptoms of scarlet fever beginning on the following day. In another report, [6] the physician performed a tonsillectomy for a child ten weeks after the onset of scarlet fever, and, after merely washing the instruments with alcohol, used them for another patient. The latter had a sore throat and fever three days later, followed by the typical eruption and desquamation.

Of the thirteen cases at the Durand Hospital, there were seven instances of scarlet fever following operations for cleft palate, two following resections of the nasal septum, and four following tonsillectomies. The intervals between operation and the first symptoms of the disease were: in two cases, two days; in six cases, three days; in two cases, four days, and in three, a few days. All patients had typical scarlet fever, and most of the cases were of the septic type. Complications were unusually numerous, including two instances of bilateral otitis media, two of unilateral otitis media, and two of sinus infections, making a total of six complicated cases in the series of thirteen. One patient, previously operated on for harelip and cleft palate, died following sloughing of the wounds, with profuse purulent discharge and double otitis media. Four nurses caring for this child caught the infection from him. In most of the cleft palate cases, there was sloughing of the tissues and imperfect closure of the defect, so that, although the wounds healed eventually, the operations were not very successful.

The occurrence of scarlet fever in children following operations especially on the nose and throat suggests the wisdom of testing and immunizing the patients beforehand. This is particularly advisable preceding cleft palate operations, since most of the patients are at a susceptible age, and if scarlet fever develops, complications are frequent, and the results of the operation are poor.

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* From the John McCormick Institute for Infectious Diseases.

1. Koch: Ein Beitrag zur Kentniss des chirurgischen Scharlachs, Thèse de Bâle, 1892, cited by de Bovis, R.: Actualités médico-chirurgicales: La scarlatine traumatique, Semaine méd. **22**: 33 (Jan. 29) 1902.
2. Sörensen, T. C.: Om Scarlagensfiberens Inkubationstid, Hospitalstid, July 4, 1888, pp. 673 and 678, cited by de Bovis.
3. Davidovitch, N.: Ueber Scarlatina traumatica, Jahrb. f. Kinderh. **67**: 143 (Supp.), 1908.
4. Port, F.: Ueber Wundscharlach, München. med. Wchnschr. **69**: 1691 (Dec. 8) 1922.
5. Gussenbauer, C.: Sephthaemie, Pyohaemie und Pyo-Sephthaemie, Deutsche Chir. von Billroth und Lücke **4**: 132, 1882.
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Clinical Notes, Suggestions, and New Instruments

AN INTERESTING RESULT FROM THE USE OF PARATHYROID EXTRACT IN A CASE OF OSTEITIS DEFORMANS (PAGET'S DISEASE)

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Suggested by the work of Collip on parathyroidectomized dogs in which the administration of extracts of parathyroid glands raised the calcium content of the blood, this substance was employed in a case of osteitis deformans with a happy result.

Nov. 6, 1923, a retired business man, aged 66, came to seek help for a case of well developed Paget's disease. His mother had died at 72, following a fracture of the hip, and his father at 59, of pneumonia. He had two brothers and one sister, all younger than he and all well. There was no personal history of past illness except scarlet fever at the age of 7 which destroyed the sight of his left eye. About six years previously he noticed a slowly developing stiffness and weakness in his legs between the ankles and knees, which gradually ascended into both thighs. He recorded that the trouble began rather abruptly, but its progress was steady. His habits, appetite and bowel movements were normal, but he was suffering from insomnia—not sleeping more than four hours in a night. He stated that in the past year his head had become larger, and occasionally he had a transitory headache. His family thought he was getting shorter in height and he could walk only six blocks at a time and that very slowly.

Examination disclosed many old-fashioned gold caps in his mouth, but roentgen-ray examination of the apexes and roots was negative. The fundi disclosed distinct "silver wire arteries," with some bulbous formation in the veins where the arteries crossed them. There was distinct palpability of the brachials and femorals (arteriosclerosis), and the blood pressure was 130 systolic and 80 diastolic. The liver was slightly enlarged and firmer than normal, and the prostate was enlarged laterally and was firm. The head was moderately triangular, the skull seemingly enlarged. From hips

to ankles the lower extremities were markedly bowed anteriorly and laterally, with numerous hyperostotic nodules on the tibias. On getting up from the prone position to standing, he was cautious and slow, and his length showed a shortening of 1¾ inches (3.5 cm.) in the upright position.

The roentgen-ray examination proved the typical bending of the long bones of the lower extremities, with more curving in the tibias and fibulas than in the femurs. The arm and forearm bones were not involved. All the bones of the lower extremities were much thickened with apparent filling in of the medullary canals. The abdominal roentgenogram showed a moderately dilated stomach, an ileac stasis and a colitis.

Laboratory examinations showed: a negative Wassermann reaction; hemoglobin, 92; index 0.95; normal red blood cell count, leukocytes, 8,100, with normal differential. The stool and urine were normal. The blood chemical findings were: urea nitrogen, 17.5 mg.; sugar, 0.05 per cent; creatinine, 1.2 mg.; uric acid, 7.2 mg.; nonprotein nitrogen, 27 mg.; cholesterol, 0.16 per cent; chlorides, 0.47 per cent. No estimation of the blood calcium was made.

In the treatment from Nov. 19, 1923, to March 24, 1925, the following methods were tried without benefit: intravenous radium, pulverized egg shells taken internally, lime and soda hypophosphite tonics, thyroid extract, potassium iodide and several combinations of gland extracts, but none containing parathyroid.

In March, 1925, he went to England to consult the various physicians there with the idea that Sir James Paget, who described the disease in that country in 1877, probably had awakened an interest in it on the part of his countrymen and that the best help could be obtained there. At the time, he was only able to hobble about the house and had to use two canes on account of extreme weakness in his legs. After a number of consultations with no encouragement as to possible benefit from any method of treatment known to the English physicians, he prepared to return to America. Just before he was to sail, while he was walking across the room with only one cane, the left femur spontaneously fractured, which laid him up in England for nine weeks, and he had to use two crutches all summer. Apparently, however, there was a practical union of the fracture.

He returned to my office, Jan. 11, 1926, just able to stand with two canes and move about very slowly and carefully. He had gained 12 pounds (5.4 Kg.) during his inactivity, now weighing 167 pounds (75.7 Kg.) dressed. With the idea that if the calcium content of the blood was raised the bones might be benefited, he was given parathyroid tablets-Armour of 1/10 grain (0.006 Gm.), one after every meal. Within a week he felt much stronger, seemed to walk better and moved about with more assurance. His progress has been steady and, March 10, 1926, after taking the parathyroid for about eight weeks, he reported that he walked two miles and more each day and used a cane only when out. He had lost 6 pounds (2.7 Kg.). He felt much stronger and was perfectly well in every way. He also said: "Before I took these tablets I was getting steadily worse, but it was so slow that I could not make comparison from day to day or even week to week, but month by month the contrast was noticeable. Since January, I have surely been feeling no worse as far as deformity is concerned; in fact, I feel it is less although it is so bad it is hard to say. However, I feel much stronger and can get about remarkably well now."

What the parathyroid did in bringing this about, it is not possible for me to say. It is regrettable that an estimation of the blood calcium was not made before beginning with the tablets. But this much is definite, that in this case of steadily progressing Paget's disease no treatment was of any value up to the moment the parathyroid was started, and that within a short time after its use was established a most marked change for the better occurred. While I am aware that in not a few cases of Paget's disease a cessation of the disorder may take place, in this instance I feel it is most logical and reasonable to believe that the improvement was due to the parathyroid extract.

I am reporting the case in the hope that this substance will be used in other cases and the results recorded.

21 West Seventy-Fourth Street.

A NEW TOWEL CLAMP

W. W. NAUTH, M.D., WINONA, MINN.

This instrument has certain advantages over those at present in use. Practically all towel clamps on the market today are constructed on either the scissor action or crossed spring action principle. With either construction, it is obvious that the handles or spring action act or operate in the same plane as that of the jaws, making it impossible to grasp the edge of the incised wound without either the instrument lying parallel and close to the incision or having the handles set at right angles to the body surface, thus interfering in either instance with the operator's work.

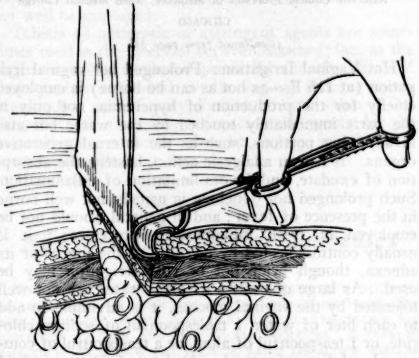

Fig. 1.—Cross section of abdominal incision with towel in position, rolled over edge of wound, and clamp ready to lock by compressive motion between thumb and two fingers.

The improvement embodied in this clamp consists of a construction which, when in use, will lie flat on the body surface, and at right angles to the incised wound. The downward curved upper member provides a method for grasping a much thicker section of the edge of the wound, at the same time rolling the towel over the edge of the incised wound, thereby insuring a more complete covering of the skin, such as cannot be obtained by any other towel clamp.

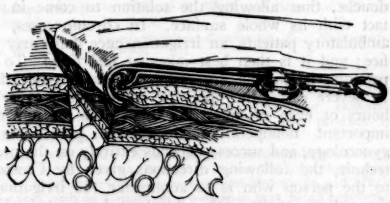

Fig. 2.—Clamp locked, lying flat on abdomen with towel folded over, covering instrument completely.

The towel in position, with clamps securely applied, may also be used as a very effective retractor. In thin patients it is possible to grasp practically the entire thickness of the abdominal wall within the opposing jaws of the instrument.

The instrument is easy to use, manipulation consisting of a compressive motion between the thumb and the index and middle fingers, for closing and locking the clamp, and a separative motion to unlock and open the opposing jaws automatically.

It is manufactured of a composition metal, nonrustible and nonstainable to a high degree, and can be readily taken apart for cleaning purposes. From four to six clamps are required to protect adequately an ordinary sized wound from contamination.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 33)

Hot Vaginal Irrigation: Prolonged hot vaginal irrigation (at 115 F.—as hot as can be borne) is employed chiefly for the production of hyperemia, not only in the parts immediately touched by the water but also in adjoining portions, such as the internal generative organs. It has an analgesic action, hastens the absorption of exudate, and favors limitation of inflammation. Such prolonged hot douching is usually not well borne in the presence of fever; and in general, should not be employed in fresh inflammatory processes;[70] it is usually contraindicated by bleeding of the uterus or its adnexa, though brief hot or cold irrigation may be used. As large quantities of plain water are not well tolerated by the vaginal mucosa, it is advisable to add to each liter of water 1 tablespoonful of sodium chloride, or 1 teaspoonful of alum, or a teaspoonful of compound solution of cresol. At least 4 liters of fluid should be employed at a time, and several times that much when the greatest possible effect is desired, the irrigation being continued for from fifteen to thirty minutes. Hence, as large an irrigating reservoir as possible should be used, and a douche pan with an outflow tube connected by rubber tube to a slop pail. An elevation of the irrigator by from 2 to 3 feet is sufficient. Excessive pressure might force fluid into the uterus. The patient must be in the recumbent posture, the knees flexed, either on a douche pan or in an empty bath tub. This irrigation connot be taken with the patient sitting on a toilet. The vagina should balloon up during the douche, thus allowing the solution to come in contact with its whole surface. In chronic cases, with ambulatory patients, an irrigation once daily may suffice; and it is then best taken at bed time. To bed patients, irrigations are ordinarily given twice daily. In severe cases, they may be administered every six hours or even oftener. As this is one of our most important nonoperative therapeutic procedures in gynecology, and success depends entirely on the proper technic, the following directions given by Crossen[71] to the person who is to administer the irrigation to the patient might with advantage be quoted almost verbatim:

> Get a teakettle of boiling water and a large pitcher of warm water, as warm as the douche may be comfortably begun with (about 105 F.). Put a piece of oil cloth on the bed, and on this an ironing board. Put the douche-pan on the lower part of the board and a quilt on the upper part to make it comfortable for the patient and allow a pillow for the head. If the upper edge of the douche-pan is uncomfortable, cover it with a folded towel. The outflow tube of the douche-pan leads into a bucket beside the bed. When the patient is arranged, the hips should be considerably higher than the rest of the body. Take the douche-nozzle out of the compound solution of cresol, rinse off in the pitcher of douche-water, attach the nozzle to the douche tubing, and introduce it into the vagina. Pour some of the warm water from the pitcher into the douche-bag and allow it to run. If some air runs from the douche tube into the vagina, that is beneficial, for it helps to separate the walls. As the patient can take the water warmer and warmer, increase the temperature, bringing it up to 115 F. if this is not too uncomfortable. Keep up the hot irrigation, ordinarily for thirty minutes or more, using as much water as necessary to maintain the irrigation for that length of time. The water runs slowly (only 2 or 3 feet elevation) and 3 or 4 gallons is usually enough. After the irrigation, the patient slides over to another part of the bed while the douche-pan, etc., is being removed, and should remain quiet for at least an hour.

Medicated Douches: As has been indicated, it is best to medicate somewhat even "simple" douches or irrigations. More strongly medicated solutions may be employed at the conclusion of an irrigation, or for special purposes by themselves. The ingredients for such douches should be prescribed either in pure form or in concentrated solution, to be diluted before use.

For an antiseptic douche, compound solution of cresol may be ordered, a teaspoonful or two to be added to a liter of water, giving a solution of approximately 0.5 to 1 per cent. This is probably the most eligible agent for the purpose. Should its odor—which indeed is one of its advantages, as it is not likely to be mistaken for something else—be objected to, a concentrated mercuric chloride solution may be prescribed, which is probably safer than the more convenient poison tablets of corrosive mercuric chloride—for a tablet, to many of the laity, means something ready to swallow. One might write the following prescription: mercuric chloride and ammonium chloride, of each 6 Gm.; methylthionine chloride (methylene blue), 0.001 Gm.; water to make 240 cc. Directions: For external use only. Tablespoonful to 2 quarts of hot water to be used as lotion as directed. This yields an approximately 1:5,000 solution.

For astringent effect, alum, 1 per cent (2 teaspoonfuls to a liter of water) answers most requirements. If a less irritant astringent is desired, solution of aluminum acetate (N. F.) may be prescribed, a wineglassful (50 cc.) to a liter of hot water. Glycerite of tannic acid (1 tablespoonful to each liter of water) or zinc sulphate (1 teaspoonful to each liter of water) yields a rather strong astringent douche.

As a deodorant, e. g., in carcinoma of the uterine cervix, potassium permanganate solution, 1:2,000, is useful. This may be prescribed by ordering, e. g., sixteen doses of 0.5 Gm. of the salt per tablespoonful of water, which is to be added to 1 liter of water and used as a douche.

Pigments and Tampons.—"Office treatment" of diseases of women, consisting chiefly of painting the affected parts with concentrated solutions and inserting tampons, has been much abused in the past by being given in acute inflammatory conditions in which it can only do harm, by being employed in various chronic diseases that can be cured only by operation, and by converting a neurasthenic or hysterical patient into a confirmed invalid by fixing the patient's attention on a possibly trivial disturbance in the genital tract. However, there still remains a field of usefulness for it in properly selected conditions. Pigments are applied, after exposure of the part with a speculum, by means of

* This is the twenty-eighth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

70. "In gonorrhea of the female, no local therapy should be employed for the first three weeks" (G. A. Wagner in Halban and Seitz: Biologie und Pathologie des Weibes **5**, first part, p. 485).

71. Crossen, H. S.: Diagnosis and Treatment of Diseases of Women, St. Louis, C. V. Mosby Company.

cotton tipped applicators or dressing forceps. The treatments are usually repeated every three or four days.

For antiseptic and astringent action in the treatment of ulcers, erosions and bleeding areas, silver nitrate (from 2 to 10 per cent) and copper sulphate solution (from 5 to 10 per cent) are generally used. The silver salt is perhaps the most efficient of these, but it has the disadvantage of discoloring the clothing. For disinfection of chancroid, thorough cauterization with liquefied phenol, preceded by a local anesthetic and followed by an antiseptic dusting powder, is probably best. The deeper action of nitric acid is usually not required and is much more painful. Tincture of iodine (U. S. P., 7 per cent) or the "stronger tincture of iodine" (N. F., 17 per cent) known as Churchill's tincture may be used as an antiseptic and stimulant to chronically inflamed areas, ulcers or erosions. Its application to the vaginal vault in chronic pelvic inflammation for a supposed counterirritant effect has been largely abandoned for more effective measures.

To "deplete" by hygroscopic action swollen, inflamed and congested pelvic tissue, thereby relieving pain and soreness, glycerin pure or variously medicated is applied to the upper part of the vagina by means of tampons. A vaginal tampon may be left in place from twelve to twenty-four hours, not longer, as it becomes offensive. It is removed by the patient by means of the string attached to the tampon, which had been left hanging from the vagina. Its removal is to be followed by a cleansing douche. That these glycerin tampons generally have marked effect on the vaginal tissue fluids is shown by the fact that they excite so profuse a discharge that it is necessary for the patient to wear a sanitary napkin to protect the clothing.

A tampon is simply a compress used in a cavity. The vaginal tampon is a wad of absorbent cotton, gauze or lamb's wool, with a short string attached about its center. For mechanical purposes, lamb's wool is preferable; for medication, absorbent gauze or cotton. They must, of course, be sterile, and should be introduced aseptically. When tampons are used to check hemorrhage, they should first be dipped in an antiseptic solution, squeezed as dry as possible, and then packed into the vagina.

For medication, the tampon is saturated in its upper, first introduced, portion with glycerin carrying various medicinal agents. For antiseptic action, glycerite of boroglycerin (31 per cent boric acid) is most commonly employed; or else mild silver protein, from 10 to 25 per cent, or strong silver protein, 2 per cent. For astringent action, the glycerite of tannic acid (20 per cent) probably answers all requirements. Soothing or astringent powders may be applied by means of a powder blower directly to the vaginal mucous membrane exposed by a speculum, or by means of a tampon liberally dusted with the powder, or carrying powder in its folds.

Of late, tampon capsules have been introduced. These can be applied by the patient at her home best at night immediately before retiring, while previously tampon treatment required trips to the physician's office. They are gelatin capsules, the size of a thumb and larger, containing wool with a string attached. If they are not previously medicated, the cap is removed by the patient just before use; a teaspoonful of the desired medicament is poured on; the cap replaced, and the capsule moistened with warm water introduced, medicated end first, up to the vaginal vault. It should be held in position for a minute or two, when it will be found that the capsule has dissolved and the tampon is fixed in place. Tampon capsules, variously medicated with agents commonly used for the purpose, are on the market.

Suppositories and Tablets.—Vaginal suppositories, also known as medicated pessaries, are globular or egg shaped, weigh from 4 to 6 Gm., and are made with cacao butter rather than glycerogelatin, as the latter is liable to mat the pubic hair. They are perhaps chiefly of use in the treatment of vaginitis of children, in those cases in which other and more effective measures cannot well be employed.

Tablets of antiseptic or astringent agents are sometimes used in the intervals between douches; but, as the vagina is seldom affected primarily and the effect of these tablets is limited to the vaginal mucous membrane, they are of very limited clinical value. The danger from absorption of poisonous agents by the vaginal mucosa must also be borne in mind in connection with their use.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

TRIBASIC CALCIUM PHOSPHATE.—Calcii Phosphas Tribasicus.—Tertiary Calcium Phosphate, $Ca_3(PO_4)_2$. Tribasic calcium phosphate contains approximately 85 per cent of $Ca_3(PO_4)_2$.

Actions and Uses.—Tribasic calcium phosphate has been proposed for use as an antacid. It has the advantage over alkaline hydroxides such as magnesium hydroxide and alkali carbonates such as sodium bicarbonate, in that, being insoluble, it neutralizes the excess of acid in the stomach but does not produce systemic alkalization. It has been claimed that tribasic calcium phosphate is somewhat constipating.

Dosage.—From 1 to 5 Gm. (15 to 75 grains).

Calcium Phosphate Tribasic-P. W. R.—A brand of tribasic calcium phosphate-N. N. R.

Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia. No U. S. patent or trademark.

TRIBASIC MAGNESIUM PHOSPHATE. — Magnesii Phosphas Tribasicus.—Tertiary Magnesium Phosphate, $Mg_3(PO_4)_2.7H_2O$. Tribasic magnesium phosphate contains approximately 70 per cent $Mg_3(PO_4)_2$. The product is partially dehydrated.

Actions and Uses.—Tribasic magnesium phosphate has been proposed for use as an antacid. It has the advantage over alkaline hydroxides such as magnesium hydroxide and alkali carbonates such as sodium bicarbonate in that, being insoluble, it neutralizes the excess of acid in the stomach, but does not produce systemic alkalization. It has been claimed that tribasic magnesium phosphate has a laxative action.

Dosage.—From 1 to 5 Gm. (15 to 75 grains).

Magnesium Phosphate Tribasic-P. W. R.—A brand of tribasic magnesium phosphate-N. N. R.

Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia. No U. S. patent or trademark.

SILVOL (See New and Nonofficial Remedies, 1926, p. 373).

The following dosage forms have been accepted:

Silvol Bougies 5 Per Cent: Bougies weighing 0.81 Gm. (12.5 grains) and containing silvol 5 per cent in a base composed of oil of theobroma, wool fat, white wax, acacia and glucose.

Silvol Ointment 5 Per Cent: Silvol, 5 per cent in a base composed of petrolatum, wool fat, benzoinated lard and white wax.

Vaginal Suppositories Silvol 5 Per Cent: Suppositories weighing 8.45 Gm. (130 grains) and containing silvol, 5 per cent, in a base composed of gelatin and glycerin.

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SATURDAY, JULY 10, 1926

THE FUNCTION OF THE SWEAT GLANDS

It was many years ago that the skin—and the sweat glands in particular—were supposed to act vicariously for the kidneys as an excretory organ when the renal tissue is incapacitated for its normal function. Thus, according to a popular textbook of the middle of the last century,

> The cutaneous and urinary excretions seem to be vicarious, not merely in regard to the amount of fluid which they carry off from the blood, but also in respect to the solid matter which they eliminate from it. It appears that at least 100 grains of effete azotized matter are daily thrown off from the skin; and any cause which checks this excretion must increase the labor of the kidneys, or produce an accumulation of noxious matter in the blood. Hence attention to the functions of the skin, at all times a matter of great importance, is peculiarly required in the treatment of urinary diseases.

In the subsequent period physiology has learned that the ability of the skin, aside from the sebaceous glands, to eliminate substances other than water has been overestimated and misunderstood. There can be no replacement of the renal activities through cutaneous function in the way formerly assumed. On the other hand, the importance of the skin in the elimination of water with its consequent influence on the regulation of body temperature has been adequately appreciated only of late. It is realized that there is a partition of water elimination between the kidneys, lungs and skin that seems to be effected above all by the intake of fluid, by the genesis of heat within the body through muscular exercise, and by the environmental temperature. The last two factors determine in a way the degree of heat elimination or conservation that may be required to prevent undue changes in the temperature of the body.

There are animal species, such as the dog and the cat, that meet the demands of varying heat regulation primarily through devices other than the excretion of water by way of sweat glands. Consequently the function of the latter is not to be regarded as a universal biologic necessity. That life is possible without sweat glands even in man has been demonstrated by a number of persons exhibiting a congenital ectodermal defect represented by the complete absence of sweat glands—icthyosis hysterix.[1] Generally speaking, such persons placed in rooms of various temperatures react like normal persons until the air has risen above the point at which the sweat production usually comes into play. After that, they are unable to dissipate the body heat with sufficient rapidity, and the inevitable result is a rise in body temperature.[2]

Du Bois [2] has pointed out that there may be an active as well as a passive transfer of water from the interior to the exterior of the body. As he expresses it, sweating is a different matter from the mere evaporation of water from the nonsweating skin. There seems to be a sudden functioning of the sweat glands whenever the air temperature reaches about 30 to 33 C. (86 to 91.4 F.) or whenever there is a marked discrepancy between the total required heat elimination and the amount that can be disseminated by radiation and conduction and the ordinary vaporization from skin and lungs. Any excess must be taken care of by sweating or else there will be a higher body temperature than is called for by the temperature regulating mechanisms or by the heat center, if there, indeed, is one.

Accordng to Soderstrom and Du Bois,[3] for an average temperature of from 22 to 25 C. (71.6 to 77 F.) and from 30 to 50 per cent humidity, normal men and patients with various diseases lose on an average 24 per cent of their calories by the vaporization of water through the skin and air passages. The average daily loss in their tests was 700 Gm. Even cardiac and nephritic patients give figures close to the normal. In the case of persons with congenital absence of sweat glands, Richardson [4] has found that under resting conditions 28 per cent of the total heat produced was eliminated in the form of water vapor, or very close to the normal average of 24 per cent found by Soderstrom and Du Bois. Less than 30 per cent of the vapor came from the lungs, and the remainder from the skin.

These painstaking studies at the Russell Sage Institute of Pathology thus confirm the belief that diffusion of water occurs through the skin from which vapor can be given off independently of the sweat glands. In this respect, in the absence of sweat, the human body "responds to the laws of physics and resembles so much meat." It is accordingly inferred by Richardson that in normal persons under ordinary resting conditions the liberation of water vapor likewise takes place without the medium of the sweat glands. If either heat production or the surrounding

1. Such persons are described by Loewy and Wechselmann: Arch. f. path. Anat. **206**: 79, 1911. Mackee, G. M., and Andrews, G. C.: Congenital Ectodermal Defect, Arch. Dermat. & Syph. **10**: 673 (Dec.) 1924.

2. Du Bois, E. F.: Basal Metabolism in Health and Disease, Philadelphia, Lea & Febiger, 1924.

3. Soderstrom, G. F., and Du Bois, E. F.: Clinical Calorimetry, XXV. The Water Elimination Through Skin and Respiratory Passages in Health and Disease, Arch. Int. Med. **19**: 931 (May) 1917.

4. Richardson, H. B.: Clinical Calorimetry, XI. The Effect of the Absence of Sweat Glands on the Elimination of Water from the Skin and Lungs, J. Biol. Chem. **67**: 397 (Feb.) 1926.

temperature is raised, there occurs at a certain point a sharp rise in the elimination of water, followed shortly by an outbreak of visible sweat. The study of persons devoid of sweat glands confirms the theory that these structures constitute an emergency apparatus that is called on only under exceptional conditions—a long step from the views of the earlier physiologists.

THE DIAGNOSIS OF LIVER DISORDERS

Exploitation of novelties in the domain of scientific medicine, and undue enthusiasm for their reputed values, have been the causes of dissatisfaction with what the laboratory may contribute to the work of the physician. Disappointments are discouraging; and there are numerous instances in which too much has been expected of the laboratory even though unwarranted by any assurances of investigators. The clinicians rush to secure the benefits of any new discovery or a novel technic, frequently proclaimed before it has been thoroughly tested. The final values rarely measure up to the promises of success. In the end, science rather than the investigator is accused of a failure that may be magnified into a charge of impotence in general.

Referring to the modern procedures for testing the normality of the activity of certain organs, a recent writer [1] asserts that many of the so-called functional tests suggested and devised for examining the capacity of organs are as empiric in fact as any one of the numerous drugs that fill the Pharmacopeia. This condition is due to some extent to the physiologist's failure to realize the rapid progress of clinical medicine, and the awakened desire of the clinician to enlarge the field of diagnostic medicine beyond its present scope. There is also the wish to diagnose disease before the development of the signs considered at present essential to diagnosis, and thus to enhance the possibility either of preventing the disease or of treating it in its incipience. It is due, moreover, he adds, to the clinician's failure to realize that true growth can be based only on facts, and that an imaginary conception supported by inaccurate data can only retard the advance of scientific medicine.

From this standpoint the studies on the liver by Mann and his associates at the Mayo Foundation are of particular value. These afford a dependable basis for the critical evaluation of tests for hepatic function.[2] It has been assumed that since the liver has many important functions it would be easy to elaborate a method of measuring the capacity of the liver when normal and when diseased in at least one of these functions. This has not been possible up to the present time. In explanation, Mann and Bollman [1] have pointed to two prominent features: First, although the liver is of major importance in many phases of physiologic activity, its activity is only a part of these processes, other organs or tissues being necessarily involved; second, in many of these processes the liver stubbornly maintains its activity, and hepatic insufficiency and death are concomitant. For example, the bilirubinemia that follows removal of the greater portion of the liver is only transitory, and the remaining portion of the liver is soon able to excrete all the bile pigment formed in the animal. Partial removal of the liver has little demonstrable effect on the rate of disappearance of dyes injected into the blood unless the amount of pigment injected is excessive, although complete retention of the dye is easily demonstrated in the completely dehepatized animal. The carbohydrate metabolism of animals with greatly reduced amounts of hepatic tissue, so far as tests of hepatic function are an indication, is also maintained at an approximately normal level, and only slight differences from normal may be found in the amount of sugar in the blood. The use of glucose or levulose tolerance tests also fails to bring out any marked deviation of these animals from normal. The changes in the formation of urea, accumulation of amino-acid and excretion of ammonia, which are specific in the dehepatized animal, are difficult to demonstrate in the animal with greatly reduced hepatic tissue. The decrease in the destruction of uric acid, however, may be demonstrated in animals with reduced hepatic tissue. Physiologic reactions following the administration of certain toxic substances may indicate that the reduction in the amount of hepatic tissue diminishes the animal's tolerance to these substances, but the chemical tests employed do not show any extensive decrease in the rate of conjugation of these substances. These are other ways of stating that there is an enormous factor of safety in the amount of hepatic tissue normally available.

The foregoing comments are based on animal experiments in which there was an actual reduction in the amount of liver tissue. They may not be strictly comparable with hepatic disorder in man. There may be qualitative as well as quantitative differences. Obviously, any "test" of decreased function that registers clearly only marked injury is of comparatively small diagnostic value. Mann and Bollman remark that some of these tests which could not be proved experimentally to have any value in a known and controlled condition of hepatic deficiency may be of value clinically, either because they are an index of disease, not necessarily wholly hepatic, or because spontaneous disease of the liver may affect the function differently from experimental procedures. The Rochester investigations under controlled conditions lead Mann and Bollman to assign limited values to the estimation of the function of the liver as follows: The van den Bergh tests for bilirubin in the blood

1. Mann, F. C., and Bollman, J. L.: Liver Function Tests, Arch. Path. & Lab. Med. 1:681 (May) 1926.
2. A recent review of these is given by Greene, C. H.; Snell, A. M., and Walters, Waltman: Diseases of the Liver, I. Survey of Tests for Hepatic Function, Arch. Int. Med. 36:248 (Aug.) 1925.

should be helpful as a measure of a condition in which the liver is either directly or indirectly, but not necessarily predominantly, affected. The physiologic basis for the use of the dyes that have been employed as tests of hepatic function is the fact that they appear to be excreted mainly by the liver. Experimentally, the hepatic function could not be sufficiently diminished to show a definite relation of hepatic insufficiency to retention of dye. Since, however, there is a definite retention of the dye in certain cases in man, this would appear to Mann and Bollman to be one of those tests whose value can be determined only by its careful and controlled use clinically, as has been done by Rowntree and his associates. There is a definite experimental basis for the elaboration of a test of glycogen mobilization which might bear the same relation to the activity of the liver in relation to carbohydrate metabolism as the quantitative bilirubin test does to pigment metabolism. Such conclusions still leave a hard road for the prospective diagnostician of liver disorders to travel.

PROTOZOA AND MAN

In the science of protozoology a new era has been ushered in through the awakening of medical interest in the lowest forms of animal parasites. Surveys relating to the distribution of protozoa in man have been made in increasing numbers since the beginning of the World War. The results, some of which have been referred to in THE JOURNAL,[1] have been so surprising as to compel attention to their significance. For example, until recently the ameba of dysentery was thought to be almost exclusively a parasite of tropical and subtropical countries; but in recent years it has been shown to be widespread throughout temperate climates as well, having been found endemic in many parts of the United States as well as the British Isles and central Europe. Some writers believe that the amount of endemic infection in temperate parts of both Europe and America has been greatly increased since the European war. This applies to admittedly harmful species of intestinal parasites. There is a growing conviction that it is not always easy to distinguish between the harmful and the harmless with respect to the protozoa. Attendant circumstances, such as gastro-intestinal lesions, may sometimes render otherwise innocuous living forms objectionable in the alimentary canal for mechanical or other reasons. Furthermore, the number of expert diagnosticians in clinical protozoology is at present still somewhat limited.

Recently Smithies[2] of the University of Illinois School of Medicine made the significant report that, in a series of nearly four thousand patients who presented themselves for the elucidation and relief of digestive disorders, one or more species of intestinal protozoa occurred in 7 per cent. Several species of protozoa may occur simultaneously in vegetative or encysted form in one host. The finding of one species, particularly of a so-called harmless flagellate, does not justify the assumption that the digestive anomaly present is due to that organism; "hidden" foci of "pathogenic" protozoa may be agents contributing to the disorder or its maintenance. These organisms may be observed only after painstaking and persistent search. The gallbladder, the vermiform appendix, colon haustra, diverticula or old, ragged or partly scarred ulcers serve as "foci of infestation" for such protozoa as *Endameba, Lamblia* or *Balantidium.*

It is too early to attempt any far-reaching deductions regarding the possible pathogenic significance of these observations. The most important feature, for the moment, is the indication of a need for more intensive study. Indeed, the latest discussion contends that far too much concern has been shown with regard to chemical tests in stools, and not sufficient attention has been given to the examination of thin stool-films, microscopically; and it is asserted that gastro-enterologic clinics, places where one would expect special efforts to be put forth, are even more negligent in stool microscopy than are clinics devoted to general medicine. Investigation of protozoa has until lately remained largely in the hands of nonmedical biologists.

The problem of the sources and perpetuation of protozoa in man also obtrudes itself to our notice. Outside the body, even in the temperate zone, food and water contamination by farm animals, flies, insects and man would seem to be an important means of spreading protozoal infestation. Particularly potent as disseminating sources are "truck farms" and hothouses where fruits and vegetables are "forced" by manuring with the contaminated excreta of fowls and barnyard animals. Hence Smithies contends that food and water fouling by protozoa furnishes a public health problem, not as yet recognized by the health boards of states and countries not tropically situated. With respect to the interior of the body, he argues further, if filthy loci are furnished by carious teeth, soggy gums, ulcerated, pus-laden tonsils, ulcers, gummas or neoplasms of the mouth, stomach or bowel, practically all species of protozoa may lodge, thrive and exert pernicious effects. Normal gastric secretion and free flow of bile and pancreatic juice may destroy or inhibit the growth of active organisms, but such agents have little, if any, effect on encysted forms. In Smithies' judgment, probably the most powerful factor concerned with the relative infrequency of protozoa in the esophagus, stomach and small bowel is free and vigorous peristaltic movements, which act against any tendency to stasis of contents in these sections of the alimentary tract. If, by ulcer or cancer, stagnation does occur in the digestive tract

1. Intestinal Protozoa in the Tropics, editorial, J. A. M. A. **72**: 417 (Feb. 8) 1919; A Plea for Medical Protozoology, ibid. **77**: 205 (July 16) 1921; Infestation with Flagellate Protozoa, ibid. **82**: 1864 (June 7) 1924.
2. Smithies, Frank: Protozoiasis Occurring in Temperate Zone Residents, Am. J. Trop. Med. **6**: 1 (Jan.) 1926.

proximal to the cecum, protozoal incidence becomes much greater. The indolent peristaltic movements, the pool-like haustra, the constant alkalinity, the protective mucus and the large caliber of the colon furnish ideal environments where protozoa, introduced with raw food, may lodge, multiply and probably initiate functional and pathologic anomalies.

Current Comment

ACETANILID

Investigations on the dangers of poisoning with aniline, to which reference was recently made in THE JOURNAL,[1] have served to correct certain current impressions regarding the toxicology of this substance, which occasionally is an industrial menace. Aniline has a direct toxic effect on the heart muscle, including the specialized conductive tissue; and in certain dosages it produces various types of arrhythmia and heart block. Contrary to the customary statements, methemoglobin does not seem to be formed during aniline poisoning. Death from acute intoxication is usually cardiac, not respiratory, in origin. This widely used drug is a derivative of aniline, mono-acetyl aniline, resulting from the introduction of an acetyl radical into the molecule. Young and Wilson,[2] working at the Universities of Michigan and Wisconsin, respectively, point out that the use of acetanilid, acetphenetidin and other aniline derivatives may bring about symptoms similar to those of aniline poisoning. For acetanilid they have already shown that, like the mother substance aniline, it also fails to produce methemoglobin despite the allegations of a positive sort in the medical literature. The action of acetanilid on the heart, blood and circulation is essentially the same as that of aniline. Both form para-aminophenol in the body, and this may account in part for the cyanosis sometimes observed. Prolonged administration of sublethal doses of acetanilid also produces anemia and emaciation. Thus the widely used drug cannot conceal its intimate relationship to aniline. Indeed, the hypothesis has been ventured that acetanilid is hydrolyzed within the organism to form aniline and acetic acid or some derivative.

THE SURVIVAL OF INTESTINAL BACTERIA

The mention of typhoid fever, Asiatic cholera, hookworm disease and amebic dysentery suffices as a reminder of the menaces that the dejecta from the alimentary tract of man may harbor. According to Jordan[3] of the University of Chicago, a single gram (15 grains) of fresh feces will contain an average of approximately 75,000,000 bacteria cultivable by the usual standard methods. The number is increased within a few days to many times, sometimes to several hundred times, the original count. This initial multiplication is due as a rule mainly if not wholly to an increase in the numbers of *B. coli;* and it occurs regardless of temperature changes outside the body. It would require little mathematical skill to demonstrate, on this basis, a propagation of alimentary bacteria which, like some of the stimulated vegetation described in H. G. Wells' Food of the Gods, would presently overwhelm us. Fortunately, nature provides inhibitions to some of her most productive processes; indeed, mankind and the physician in particular have come to depend on natural protective devices to afford us some security against a world of threatening dangers. In the case of the dejecta it has also been demonstrated that the initial multiplication of the fecal bacteria outside the body is followed by a slow but unfailing decrease. This is true even for such infectious agents as the typhoid bacteria in feces. Hence it seems improbable to experienced bacteriologists that long-unused privy vaults or earth pits remain permanently infectious. Even the alimentary tract itself becomes the graveyard for myriads of bacteria that never escape its confines alive. Immunity is not the only force that fights in our behalf. The bacteria have their own struggles for survival in a world that is not always tolerant even to these lowly forms of life.

THE VITAMINS IN HUMAN MILK

Among the advantageous components that place milk in the front rank of nutrient products, the vitamins are usually emphasized. True, these food factors are contained in milk; but the early impressions of its extreme richness in the vitamins have not remained without some disappointments. This is due in part to early reports, notably by Hopkins of England for cow's milk, that have not been substantiated by American investigators. Hence a recent writer[1] has remarked that great uncertainty exists as to the vitamin B content of milk, and considerable variation is known to exist in the content of vitamins A and C. Many articles of food exceed milk with respect to the content of one or another of the vitamins, though few individual edible products exhibit an equal variety of them. A partial explanation, at least, of the confusion about cow's milk lies in the character of the diet of the lactating animal; for to a certain extent her vitamins depend on the supplies of vitamin furnished with her rations. Typical winter farm milk, produced during the season of indoor life for the cow on dried fodders, is likely to be much poorer in vitamins. Change to green pasturage is advantageous. Until recently, the quality of human milk from the vitamin standpoint has scarcely been examined. The few available studies[2] have not served to arouse especial enthusiasm for the human product despite the expectation that it might evince values that would help to explain its vaunted superiority as an infant food. The latest and most elaborate investigations from the Merrill-Palmer

1. Shoe Dyes and Aniline Poisoning, Current Comment, J. A. M. A. **86**: 34 (July 3) 1926.
2. Young, A. G., and Wilson, J. A.: Toxicological Studies of Aniline and Aniline Compounds, III, Toxicological and Hematological Studies of Acetanilid Poisoning, J. Pharmacol. & Exper. Therap. **27**: 133 (March) 1926.
3. Jordan, E. O.: The Changes in the Bacterial Content of Stored Normal and Typhoid Feces, J. Infect. Dis. **38**: 306 (April) 1926.

1. McCollum, E. V., and Simmonds, Nina: The Newer Knowledge of Nutrition, New York, the Macmillan Company, 1925.
2. Gibson, R. B.: Philippine J. Sc., Sect. B **8**: 475, 1913. Osborne, T. B., and Mendel, L. B.: Carnegie Institution of Washington, Year Book 19, 1920, p. 389; Biochem. J. **17**: 363, 1922. Kennedy, C.; Palmer, L. S., and Schultz, F. W.: Tr. Am. Pediat. Soc. **35**: 26, 1923.

School in Detroit[3] place human milk in a class with cow's milk; the mixed product from wetnurses, at any rate, is not richer in vitamins than is the average market milk. Whether improvement can be instituted through appropriate feeding of the lactating women, and whether this is a real advantage to the infants, remains to be learned. This is not the first time that physicians have been made to realize that even breast milk ordinarily carries no exceptional factors of safety against certain deficiency disorders.

Association News

THE WASHINGTON (D. C.) SESSION

Time and Place of the Seventy-Eighth Annual Session

The Board of Trustees of the American Medical Association has unanimously decided on May 16-20, 1927, as the date for the Seventy-Eighth Annual Session of the Association, to be held in Washington, D. C.

Chairman of Local Committee of Arrangements

Dr. William Gerry Morgan will serve as Chairman of the Local Committee of Arrangements for the Washington Session.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CONNECTICUT

Personal.—Dr. Edward J. Godfrey, Jr., has been appointed city health officer of Waterbury.——Dr. Willard Soper, Saranac Lake, has been appointed municipal director of tuberculosis of New Haven.

Typhoid from Clams.—The state department of health reports a recent outbreak of eight cases of typhoid fever in one family following the gift by a neighbor of some raw clams which had been dug up near the mouth of a large sewer. The clams are of the so-called bootleg variety, dug up by irresponsible persons, and were not from a certified area in the shellfish waters.

Dedication of Memorial.—At the dedication of a memorial to Dr. William Beaumont at Lebanon, June 29, Russell H. Chittenden, Ph.D., emeritus professor of physiologic chemistry, Yale University School of Medicine, gave the address, and Lafayette B. Mendel, Ph.D., Sterling professor of physiologic chemistry, Yale University School of Medicine, presided; Dr. Leonard W. Bacon presented the memorial and Karl F. Bishop, Esq., first selectman, accepted the memorial in behalf of the town. Dr. John E. Lane, New Haven, represented the American Medical Association at the exercises. The memorial is a tablet set on a boulder taken from the Beaumont farm.

Pasciuta Refused License.—Judge Ells of the New Haven superior court filed a memorandum, June 10, in which he refused to issue a mandamus requiring the secretary of the state board of health to recognize the report of the eelectic board of examiners and issue Amedo Pasciuta of Meriden a license to practice medicine in Connecticut. The judge said in part, it is reported, that Pasciuta made a sorry show of his fitness in his testimony, and that his medical education is a sham. The judge said in his decision that three of the members of the board that had examined Pasciuta and passed him as fit to practice medicine had their own licenses to practice medicine revoked because of fraud. Pasciuta's application for a mandamus was denied.

3. Macy, I. G.; Outhouse, J.; Long, M. L., and Hoobler, B. R.: A Study of the Vitamin A and B Content of Mixed Human Milk, J. Biol. Chem. 67:1i (Feb.) 1926.

DISTRICT OF COLUMBIA

Dr. Wiley Honored.—Dr. Harvey W. Wiley, for many years chief chemist of the U. S. Department of Agriculture, was tendered a testimonial luncheon, June 30, by the New York Consumers and Producers' Association in New York to celebrate the twentieth anniversary of the first national pure food law. Dr. Wiley had a prominent part in forwarding this legislation, which was enacted by Congress, June 30, 1906.

Examination of Preschool Children.—The parent teacher associations in Washington having inaugurated a movement for the physical examination of all children before entering school, the district health department has offered the services of the child hygiene centers for these examinations. The health department has announced that in the examination of 2,614 pupils of the first grade and kindergartens in the district, 91.5 per cent of them were found to have physical defects.

FLORIDA

Society News.—The Florida State Medical Golfers' Association was organized at the Gainesville meeting of the state society with Dr. Joseph Halton, Sarasota, president; Dr. William S. Manning, Jacksonville, secretary, and Dr. Joseph W. Taylor, Tampa, treasurer. There will be a three day tournament at the next annual meeting, and all members are requested to bring their golf clubs. The membership fee is one dollar.——Dr. Samuel R. Norris, Jacksonville, addressed the Volusia County Medical Society, Daytona Beach, recently, on "The Conduct of Labor."

Lakeland's New Hospital.—Largely as the result of the initiative of physicians of Polk County, Lakeland voted almost unanimously to provide a hospital not only for that community but for the surrounding southwest section of Florida. It required about three years to educate the people of this community to the need of a hospital. Lakeland has just completed, the *Journal of the Florida Medical Association* says, the most modern type of hospital building, and there is a very friendly attitude toward the Polk County Medical Society. The people feel that the Morrell Memorial Hospital, Lakeland, has provided them an avenue of service. Before the opening, recently, the city of Lakeland entertained at luncheon the members of the Polk County Medical Society, the Cleveland Heights Club and the local press association; there were present physicians from Tampa, Ocala, Jacksonville, Orlando, Plant City, Fort Myers and all parts of Polk County. The hospital is of Spanish and Italian design with reenforced concrete frame, hollow tile walls, stucco finish, four stories high, fireproof, with driveways, covered porches, sun parlors and roof garden, and the various departments have modern equipment. The entire hospital plant represents an investment of about $500,000.

ILLINOIS

Kopczynski Assumes Deceased Physician's Name.—C. W. Kopczynski, formerly of Chicago and Youngstown, Ohio, was sentenced, July 1, at Belleville to serve from one to ten years in the penitentiary, it is reported, following his plea of guilty to a charge of abducting a 16 year old girl. Kopczynski came to Caseyville several months ago in answer to an advertisement for a physician, following the death of the only physician which that town had. He is said to have assumed the name of "Dr. David Provan," a reputable physician of Chicago, who died in July, 1924, and engaged in the practice of medicine. Kopczynski was arrested in June and indicted under charges of violating the medical practice act, abduction and rape. It is also reported that Kopczynski formerly practiced medicine in South Omaha under the name of "Dr. Provan Kopczynski," and that Dr. David M. Provan's license disappeared after he died.

Chicago

Hospital News.—The Illinois Central Hospital is to build an additional wing of fifty beds, which will make the total capacity of the hospital 250, and provide additional space for laboratories; the main building was opened in 1916, and a wing was constructed in 1922.——Dr. Stephen R. Pietrowicz has been elected chief of staff of St. Mary of Nazareth Hospital, succeeding the late Dr. Albert J. Ochsner; Dr. George Mueller has been elected surgeon-in-chief.

Annual Golf Tournament.—The twenty-fifth annual tournament of the Physicians' Golf Association of Chicago will be

held at the Evanston Golf Club, July 16. Members who are not indebted to the association are eligible to compete for the prizes, and handicaps will be assigned by the officers acting as a committee of the whole. The Dickerman cup, emblematic of the championship, will go to the player making low score for 36 holes; other trophies to be awarded are the Henrotin cup, the Billings cup, the Lynch cup and the Association cup. The charge for green fees, luncheon and dinner is $10. Notice should be sent promptly to the secretary, Dr. Laurence H. Mayers, 307 North Michigan Avenue; Dr. Oliver S. Ormsby is the president.

Chicago's Low Mortality Rate.—Among the cities of the world with a population exceeding one million, Chicago had in 1925, as it did in 1924, the lowest death rate, 11.5 per thousand of population. According to the Chicago Department of Health, the death rate in other great cities in order are: Berlin, 11.7; New York, 12.2; Vienna, 12.9; Philadelphia, 13.2; Buenos Aires, 13.7; Paris, 14.7; Bombay, 25.4; Calcutta, 32.7; the figures for London and Osaka were not obtainable. Perhaps the greatest single factor in keeping Chicago in the lead, the health commissioner says, is the reduction in infant mortality, which, in 1925, was 74.7 infant deaths per thousand births, the lowest Chicago ever had. The death rate from diphtheria, measles, scarlet fever and whooping cough was lower in 1925, and although the city was "literally surrounded by smallpox," there were only a few cases in Chicago.

INDIANA

Physician Sentenced.—Dr. Julius C. Blume, Elwood, recently pleaded guilty to violation of the narcotic act, it is reported, and was sentenced to one year and a day in the state penitentiary at Leavenworth, Kan.

Society News.—Dr. George W. Crile, Cleveland, addressed the Terre Haute Academy of Medicine, recently, on "Function of Liver in Its Relation to Management of Operation on Gallbladder."——Dr. Arlie R. Barnes of the Mayo Clinic, Rochester, Minn., held a clinic on "By-Products of Hyperthyroidism" at the annual meeting of the Eleventh District Medical Society, Wabash, May 20.——Dr. Willis D. Gatch, Indianapolis, addressed the annual meeting of the Randolph County Medical Society, Winchester, June 16, on "Experimental and Clinical Observation on Intestinal Obstruction."

Personal.—Dr. Charles P. Emerson, dean and professor of medicine, Indiana University School of Medicine, Indianapolis, addressed the National Conference of Social Workers at Cleveland, May 27, on "The Hospital as a Social Center."——Dr. Horace R. Allen, Indianapolis, addressed the Muncie Academy of Medicine, May 28, on "Bone Surgery"; Dr. Stuart Graves, dean and professor of pathology and bacteriology, University of Louisville School of Medicine, addressed the academy recently on "Incidence, Character, Distribution and Etiology of Forty-Five Aneurysms Encountered in 1,595 Necropsies."——Dr. Earle S. Green has been elected chief of staff of the Home Hospital, Muncie, to succeed Dr. Byrl R. Kirklin, who has accepted a position at the Mayo Clinic, Rochester, Minn.——Dr. James B. Maple, Sullivan, has been appointed a member of the school board.——Dr. John B. Maxwell, formerly of Lucerne, has been appointed on the staff of the Northern Hospital for the Insane at Logansport.——Dr. Merrill F. Steele, Fort Wayne, was elected president of the Indiana Hospital Association, June 5.——Honorary degrees were conferred at the eighty-eighth annual commencement of Wabash College, June 12, on Dr. Joseph R. Eastman and Dr. Thomas B. Noble, both of Indianapolis.——Dr. Harry O. Jones has been elected a member of the school board at Berne.

KANSAS

Medical Defense Board.—At the last annual meeting of the Kansas Medical Society, the medical defense board reported that the annual expenditures of the board for the last twelve years averaged $1,291.62; the greatest expenditure for any one year having been about $2,000 in 1926. The attorney for the board reported that eight actions had been filed since the last report, and that there were then pending twenty-four in some form or other, as compared with twenty actions pending a year ago. He said that the society had not lost any of the six cases disposed of since the last report. Of the cases that came to trial during the past year, two were dismissed by the plaintiff because of inability to make a proper showing; two were taken from the jury by the court and judgment entered for the defendant, and one case resulted in a verdict by the jury for the defendant.

KENTUCKY

Personal.—Dr. Edward Speidel was elected president of the Medical Alumni of the University of Louisville, which was organized at a meeting in that city, June 15.——Dr. Loranza F. Jones has been appointed health officer of Richmond.

University News.—A chapter of the international honorary scholarship society, Alpha Omega Alpha, has been established at the University of Louisville School of Medicine, following a petition by five members of the faculty and seven undergraduates; there are now thirty-five chapters of this society in the United States and Canada, including those recently established also at the University of Wisconsin, University of Colorado and the University of Georgia.

Deaths from Infantile Paralysis.—A preliminary report of deaths of 1925 by the director, bureau of vital statistics, state board of health, shows, it is reported, that fifty deaths were due to infantile paralysis in the state last year, and that the disease was not confined to any one part of the state. There were 225 deaths due to automobile accidents, an increase from 137 for the previous year. The total number of deaths in the state in 1925 was given as 28,448, a rate of 11.4 per thousand of population. There were 62,138 births, a rate of 25.2 per thousand. The infant mortality rate was 73.4 per thousand.

MASSACHUSETTS

Personal.—Mayor Nichols of Boston has reappointed Dr. Francis X. Mahoney as city health commissioner.——Dr. Josiah P. Bixby was honored by the physicians of Woburn, June 2, at a meeting at the Country Club to celebrate his fiftieth year of honorable service in the practice of medicine; Dr. Bixby not only gave honorable service in his profession, but has also been active in the civic and religious activities of this community.

Report of Massachusetts General Hospital.—This hospital is gradually introducing men who give part or whole time to research, and offices are given to some of them at the hospital where they may see private patients, according to the *Boston Medical and Surgical Journal*. The Bulfinch building has been entirely remodeled, so that it has a capacity of 240 beds instead of 191, and offices for some full-time members of the staff, and laboratories for research and routine work. During the last year, Dr. James Homer Wright, for many years pathologist, resigned and is now consulting pathologist, and Dr. Oscar Richardson, assistant pathologist, resigned after twenty years of service; Dr. Tracy B. Mallory has been appointed chief of the department of pathology. In his annual report for 1925, the director of the hospital states that 58,243 of the 118,783 patients' days were free. In spite of this the proportion of patients paying board full time has increased from 13 per cent in 1891 to 64 per cent in 1925, while the percentage of free patients has decreased from 80 per cent in 1891 to less than 14 per cent in 1925.

MICHIGAN

Virulent Diphtheria.—The type of diphtheria prevalent in Detroit at present is unusually severe, forty-eight deaths having occurred among 289 patients in June up through the twenty-sixth, giving a fatality rate of 16.6. In the first five months of this year there had been 898 cases reported with 134 deaths, giving a case fatality rate of 14.9, while in the first five months of last year there were 752 cases with thirty-five deaths, and the case fatality rate was only 5.4. The average age of the children dying of diphtheria in Detroit in the last two months was 6 years, and none of them had had toxin-antitoxin.

Society News.—Dr. George C. Mosher, Kansas City, Mo., addressed the Detroit Obstetrical and Gynecological Society, recently, on "Indications for Cesarean Section."——At the last meeting of the Detroit Oto-Laryngological Society, Dr. Clifton F. McClintic, professor of anatomy, histology and embryology at the Detroit College of Medicine, gave a demonstration of the anatomy of the nervous system; the society meets at the Wayne County Medical Society's building, 64 High Street, the third Wednesday of each month. The officers for the ensuing year are Dr. Frank L. Ryerson, president; Dr. Emil Amberg, vice president, and Dr. William Fowler, secretary-treasurer.——The thirty-seventh annual clinic of the Alumni Association of the Detroit College of Medicine and Surgery was held in Detroit, June 14-19.——The Tuberculosis Society of Detroit and Wayne County has created five scholarships of $150 each, to be awarded annually to those teachers who show the most effective results in school health work.

NEW YORK

Hospital News.—St. Johns Hospital, Brooklyn, has let the contract for a $1,600,000 hospital building.——Mount Mercy Hospital, Buffalo, has let the contract for a new $500,000 hospital building.

Warning: Liquor Prescriptions Stolen.—Several physicians of Binghamton had their liquor prescription blank books stolen, recently, coincident with a visit by a "pseudorepresentative" of a distillery in Pittsburgh. The culprit managed by various ruses to be alone in the physicians' offices for a short time during his visit, and in this manner was able to accumulate a considerable number of liquor prescriptions. He is described as of dark complexion, smooth face, about 30 years old, and as wearing a blue suit and carrying a brief case.

Course in Orthopedic Nursing.—The New York Orthopedic Dispensary and Hospital, 420 East Fifty-Ninth Street, New York, will offer a three months postgraduate course in orthopedic nursing, beginning October 1. There will be lectures by professors from Columbia University, demonstrations and practical work in the operating rooms and wards, and visits to the branch of the hospital at White Plains to observe patients during convalescence. Certificates will be given nurses who complete the course satisfactorily, and students will receive $30 a month with full maintenance.

Committee on Grievances.—In accordance with the new Webb-Loomis Medical Practice Act, the board of regents of the state education department has appointed a committee on grievances to consider charges against duly licensed practitioners for alleged violation of the law. If the committee sustains the charges brought before it, the board of regents, to which the committee reports, may revoke or suspend licenses, or otherwise discipline those whom the board found guilty. The members of the committee on grievances nominated by the state medical society include Drs. Orrin S. Wightman, New York; Moses Keschner, New York; Frederick H. Flaherty, Syracuse, and Allen A. Jones, Buffalo; other physicians on the committee are Roy Upham, Brooklyn; Arthur B. Van Loon, Albany; Grant C. Madill, Ogdensburg; Martin B. Tinker, Ithaca, and William S. Overton, Binghamton. The state osteopathic society has one representative on the committee.

New York City

Milk Grafter Sentenced.—Thomas J. Clougher, formerly secretary to Health Commissioner Dr. Frank A. Monaghan, was convicted of giving and taking bribes in connection with the milk supply of the city, it is reported, and was sentenced to from five to ten years at hard labor in Sing Sing prison. Clougher was taken to Sing Sing, June 30.

Health of Negroes.—A study by the department of health of last year's deaths in the city reveals a higher death rate for negroes than for white persons for pulmonary tuberculosis, pneumonia, heart disease, nephritis and violence. The respective rates per hundred thousand of population were 357 and 67 for pulmonary tuberculosis, 390 and 127 for pneumonia, 331 and 237 for heart disease, 82 and 62 for nephritis, and 160 and 95 for violence, including suicides; the respective rates for all causes were 2,291 and 1,113 per hundred thousand of population.

Personal.—Friends of Dr. Emanuel Libman gave a dinner in his honor, June 18, to celebrate his return to health; Dr. Israel Strauss was toastmaster.——Dr. Nellis B. Foster received the honorary degree of Sc.D. from Amherst College, June 21.——Dr. Clarence G. Bandler has been appointed professor of urology at the New York Post-Graduate Medical School and Hospital.——Dr. Alphonse R. Dochez received the honorary degree of doctor of science from Yale University, June 23.——Drs. Thomas A. Gonzales and Manuel E. Marten have been appointed deputy chief medical examiners. Both of these physicians for years have been assistants to the medical examiners in the Manhattan and Brooklyn offices.

Society News.—The first meeting of the New York Academy of Medicine in its new building will be the stated meeting, October 21; Professor Magnus of the University of Utrecht, Holland, addressed a special meeting of the section of otology of the academy, June 24, on "Cooperation or Interference of Reflexes from Other Sense Organs with Those Evoked from the Labyrinths."——Dr. Frank E. Elliott has been elected president of the Bay Ridge Medical Society, and Dr. Herman Reque, secretary.——It was announced at a luncheon, June 18, at the Bankers' Club that the campaign of the American Society for the Control of Cancer for a $1,000,000 endowment fund had reached about $340,000, and that an intensive campaign will be conducted in the fall.

New Medical Films.—The Metropolitan Life Insurance Company has produced a film, "New Ways for Old," which is a story of the change in the methods of handling a case of diphtheria in an American family since the Civil War; the Metropolitan Insurance Company, Madison Avenue, New York, is prepared to send the film to health officers and public health associations, free of charge, except for transportation.——The Travelers' Insurance Company has prepared a one-reel film entitled "Paying the Price," which is available for loan in the state of New York, and is the story of a mechanic who injured his hand slightly and treated the injury himself. The picture has no gruesome details; applications for its use may be made to the Supervisor of Exhibits, State Department of Health, 4 Clinton Avenue, Albany, N. Y.

NORTH DAKOTA

Hospital News.—The citizens of Langdon voted at the June primaries on the question of erecting a memorial hospital.——St. Joseph's Hospital, Dickinson, dedicated a new wing in April.

Personal.—Dr. Gustavus J. McIntosh, Devils Lake, has been reappointed superintendent of the county board of health.——Dr. William Thelen, Wilton, has been elected president of the North Dakota Health Officers' Association; Dr. Edward C. Haagensen, Grand Forks, vice president, and Dr. Arthur A. Whittemore, Bismarck, secretary-treasurer.——Dr. Walter B. Scott, Ray, has been appointed superintendent of the board of health of Williams County, to succeed the late Dr. Henry C. Windel, Williston.

OHIO

Personal.—Dr. George T. Harding, father of the late President Harding, was elected departmental medical director of the Ohio G. A. R. at the annual encampment, June 16.——Dr. Ralph W. Good, Cincinnati, who has been nominated for a three years fellowship in general surgery at the Mayo Foundation, Rochester, Minn., took up his new duties July 1.——Dr. Nancy E. Finney, Cedarville, has been appointed resident physician at Western College for Women at Oxford, and will take up that work, September 1.

OKLAHOMA

State Medical Election.—At the annual meeting of the Oklahoma State Medical Association, Oklahoma City, June 22-24, Dr. Arthur S. Risser, Blackwell, was elected president; Dr. Joseph S. Fulton, Otoka, president-elect; Drs. Ross D. Long, Oklahoma City, Fred S. Clinton, Tulsa, and Walter A. Howard, Chelsea, vice presidents, and Dr. Claude A. Thompson, Muskogee, secretary-treasurer (reelected). The next annual meeting will be at Muskogee in May, 1927.

PENNSYLVANIA

Typhoid Outbreaks.—The state board of health notes that in the outbreak of typhoid at New Milford, recently, there were only four deaths among about seventy-four cases. More recently, there was an outbreak of fifteen cases of typhoid at Glenshaw in Allegheny County; both outbreaks were water-borne.

County Society Clinic.—The annual clinic of the Blair County Medical Society was conducted, June 26, at the Mercy Hospital, Altoona, whose staff was host at a luncheon at the Blairmont Club for the visiting physicians. There were clinics in the morning on bladder surgery and on thyroid surgery, and in the afternoon clinics on general medicine, dental surgery, and other specialties, also exhibits of pathologic specimens and roentgen-ray plates.

Hospitals May Exclude Osteopaths.—Hospitals under the control of the state of Pennsylvania have the right to determine the sort of treatment to be administered in them and who may prescribe and administer remedies, according to the opinion of Deputy Attorney General Anderson. The opinion was made in answer to a complaint of J. T. Fuller, an osteopath of Corry, who complained that he had been refused permission to give osteopathic treatment to certain patients.

Research on Sleep.—The Mellon Institute of Industrial Research announces that from now on there will be two separate Simmons fellowships at the institute; one of them will continue research on the physiologic and psychologic factors of sleep under the supervision of Harry M. Johnson, Ph.D., and the other, held by Thomas H. Swan, Ph.D., will

be concerned chiefly with the subject of bedding materials. The Simmons fellowship was founded at Mellon Institute in 1924 to carry on a broad study of problems in the promotion and maintenance of healthful sleep. The investigation is being supported primarily for the benefit of the public, and the results will be published.

Philadelphia

Hospital for Sale.—The board of city trusts placed the Wills Eye Hospital, Logan Circle and Parkway, on sale, June 23; if the site will bring what is said to be a reasonable estimate ($1,500,000), a new hospital will be erected on some other site.

Hospitals Merged.—The board of trustees of Mount Sinai Hospital announced at the annual meeting, June 8, the completion of the merger of Mount Sinai and the Jewish Maternity hospitals. The former hospital will continue to operate the maternity hospital as a branch until the new building is completed, and for which the funds are already available. The board of trustees and the medical staff of both institutions have merged; fifty of the 100 beds in the new building will be assigned to the obstetric department.

SOUTH DAKOTA

Crippled Children's Clinic.—A crippled children's clinic was held at DeSmet, May 11, by Dr. Emil S. Geist, Minneapolis, under the auspices of the state division of child hygiene, in conjunction with the meeting of the Kingsbury County Medical Society. About forty patients were present from twelve counties, as well as all of the physicians of Kingsbury County, and some from adjoining counties; there was a banquet in the evening. The Kingsbury County Medical Society is said to be the only county society in South Dakota whose membership comprises all the physicians in the county.

TENNESSEE

Vanderbilt Suspends Dental School.—It is reported that Vanderbilt University has suspended the dental department, the chief reason being the failure to secure funds for an endowment sufficient to maintain its standing comparable to the other schools of the university.

Health at Memphis.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of 29,000,000, for the week ending June 12, indicate that the highest mortality rate (29.2) was for Memphis, and that the rate for the group of cities as a whole was 12.4. The mortality rate for Memphis in the corresponding week last year was 19.7, and for the group of cities, 15.3.

Personal.—Dr. Theodore W. Davis, Nashville, has been elected resident physician of the Nashville General Hospital, to succeed Dr. Bailey B. Sory, Jr., Springfield, resigned.——Dr. Edward W. Clark, Willow Grove, was elected president of the Upper Cumberland Medical Society at the recent annual meeting at Red Boiling Springs, and Dr. Zeb L. Shipley, Cookeville, who has been secretary for ten years, was reelected.

VIRGINIA

Hospital News.—The Hughes Memorial Hospital, Danville, was opened, June 10. The four-story building is named in honor of the late John E. Hughes, Danville, who left, in his will, $250,000 for the hospital; the former general hospital has been closed.

Appointments to State Board of Examiners.—The governor recently appointed the following, among others, to the Virginia State Board of Medical Examiners for a period of four years:

Dr. John H. Ayers, Accomac; Dr. Philip St. L. Moncure, Norfolk; Dr. Hack U. Stephenson, Richmond; Dr. Fletcher J. Wright, Petersburg; Dr. Isaac C. Harrison, Danville; Dr. John W. Preston, Roanoke; Dr. Philip W. Boyd, Winchester; Dr. Lewis Holladay, Orange; Dr. Francis H. Smith, Abingdon; Dr. Robert Glasgow, Lexington; Dr. Garnette W. Johnson, Danville.

Personal.—Dr. Waller Nelson Mercer, Richmond, lieutenant colonel, Medical Reserve Corps, U. S. Army, has been assigned as chief of the Medical Service, General Hospital no. 73 (Reserve), Baltimore.——Dr. Samuel E. Hughes, Danville, has been appointed medical director of Hilltop Sanatorium, Danville.——Dr. Thornton W. Hankins, Fordwick, has been elected president of the Bank of Craigsville.——Dr. John Shelton Horsley, Richmond, was elected president of the Virginia Academy of Science, May 8, and Dr. Edgar C. L. Miller, Richmond, secretary-treasurer.

Fund for Medical School Complete.—The campaign for $1,400,000 for new medical buildings at the University of Virginia has been successful, and work on the buildings will start as soon as the plans are completed. The state of Virginia contributed $250,000, private subscriptions amounted to $351,000, and the original grant of the general education board of the Rockefeller Foundation of $700,000 was increased by a more recent gift of a $100,000 addition. In general, the new buildings will conform to the old standards of the university as first planned by Thomas Jefferson. Dr. Robert B. Bean is chairman of the faculty committee on construction.

WASHINGTON

Sanipractor Fined.—According to the *Health Messenger*, Sam Rosenstrauch, sanipractor, Seattle, was fined $50, June 8, by Judge Dalton in connection with his use of the term "surgery" in an advertisement; he is said to have claimed to do electrotherapy and surgery.

Personal.—Dr. Warren B. Penney was elected president of the Pierce County Antituberculosis League, at Tacoma, May 11.——Dr. Oliver J. Moorhead has been appointed health officer of Walla Walla for the unexpired term of Dr. Joseph P. Kane, who recently went to Johns Hopkins University for postgraduate study.

Society News.—Dr. Frederick A. Willius, Mayo Clinic, Rochester, Minn., recently addressed the King County Medical Society, Seattle, on "Newer Methods in the Treatment of Heart Disease."——The Whitman County Medical Society voted to refuse to recognize in his official capacity the osteopath who was recently appointed city health officer of Colfax; the state director of health has ordered Dr. Robert J. Skaife to take charge of health work in Colfax.——Dr. Adolph Weinzirl has been appointed assistant commissioner of health of Seattle.——Dr. James E. Crichton, Seattle, has retired as president of the King County Antituberculosis League after nine years of service.——Dr. Hibbert W. Hill, commissioner of health, Vancouver, B. C., addressed the King County Medical Society, recently, on "Nonrelation of Nutrition to the Incidence of Infectious Diseases."

WEST VIRGINIA

State Society Would Raise Professors' Pay.—The West Virginia State Medical Association at its annual meeting, Morgantown, May 25-27, adopted the following resolution and authorized the president or his representative to appear before the state board of education with reference to the subject:

WHEREAS, The salaries of our West Virginia University School of Medicine professors are not at all commensurate to the service rendered to the state; and since they are less than those paid to the professors in the law school, and since they are less than that earned ordinarily by doctors during their first years of practice; therefore, be it

Resolved, That we, the House of Delegates of the West Virginia State Medical Association, recommend to the state board of education that the salaries of the professors in the school of medicine who hold membership in the American Medical Association be raised to $6,000 for the year as a minimum.

WISCONSIN

Society News.—The Third Councilor District Medical Society held its first annual meeting at the Wisconsin General Hospital, Madison, June 30. The program was arranged by a committee representing each of the five county societies; among others, Dr. Raymond C. Blankinship, assistant professor of clinical medicine, University of Wisconsin, spoke on "Cholecystography"; Dr. Joseph Brennemann, Chicago, on "Treatment of Pyloric Stenosis and Allied Conditions"; Dr. Joseph F. Smith, Wausau, president, state medical society, on "Periodic Examinations of Apparently Healthy Persons," and Dr. Frederick J. Gaenslen, Milwaukee, on "Diagnosis and Treatment of Some of the Common Fractures."

GENERAL

Effect of College Athletics.—The President's Committee of Fifty on College Hygiene, and the Metropolitan Life Insurance Company have undertaken an investigation of the effect of college athletics on the life expectation of athletes; other participating organizations are the American Students' Health Association, the National Collegiate Athletic Association and the Society of Directors of Physical Education in Colleges. They will study the life histories of more than 8,000 college athletes who were members of the class of 1905 and previous years. The study will necessarily be restricted to those schools which as early as 1905, had well organized athletic departments, and thus far the following schools are participating in the study: Yale, Princeton, Cornell, University of California, University of Michigan, University of Chicago, University of Pennsylvania and Amherst.

American Therapeutic Society.—The twenty-seventh annual meeting of the American Therapeutic Society was held in Philadelphia, June 10-12, under the presidency of Dr. Lewis H. Taylor, Washington, D. C., who addressed the opening scientific session on "Personal Observations on the Management of Surgical Cases"; among the other speakers were Dr. William Wayne Babcock, Philadelphia, "Application of Hydrokinetics in the Treatment of Aneurysm"; Dr. William A. Campbell, Colorado Springs, Colo., "Pulmonary Hemorrhage and High Altitude"; Dr. Noah Philip Norman, New York, "Summary of Present Knowledge of Vitamins and Their Therapeutic Importance"; Dr. Arthur C. Morgan, Philadelphia, "Therapeutics of Headache," and Dr. Hyman I. Goldstein, Camden, N. J., "Newer Therapy in Cardiovascular Renal Disease." Dr. William A. Campbell, Colorado Springs, Colo., was elected president; Drs. William Robinson, Philadelphia, Cole Edward Cooper, Toronto, Canada, and Fitch C. E. Mattison, Pasadena, Calif., vice presidents; Dr. Jacob Diner, New York, treasurer; Dr. Alpheus F. Jennings, Detroit, editor, and Dr. William J. Mallory, 1720 Connecticut Avenue, Washington, D. C., secretary. The next annual convention will be in Washington, D. C.

Wassermann Test for Federal Prisoners.—The department of justice at Washington announces that it will apply the Wassermann test to all inmates of federal prisons and correctional institutions. The Wassermann test has heretofore never been applied to all federal prisoners. Through the cooperation of the University of Kansas, the department of justice announces, opportunity was presented for applying the test to convicts at Leavenworth at a minimum expense, and the Attorney General decided to initiate the plan for all federal prisons. Mr. Sargent said in his statement:

> Under recommendation of the federal prison authorities of the department of justice, steps have been taken for the application of the Wassermann blood test in the various penal and correctional institutions of the government. To some extent these tests have been taken at Atlanta and McNeil Island penitentiaries. A recommendation has been received from the prison inspector for the making of the blood tests at the Leavenworth penitentiary, and arrangements have been made with the University of Kansas Medical School for assistance in taking the Wassermann tests for the entire convict personnel of that pentitentiary.

Through the cooperation of the Kansas University, tests will be made on the 3,000 inmates of Leavenworth at a cost of not more than $750, and the work will be done within the next ninety days. Medical treatment will be given, in such cases as prove necessary, although such treatment has never before been undertaken by prison authorities.

Society News.—At the annual meeting of the American Psychiatric Association, New York, June 8-11, Dr. George M. Kline, Boston, was elected president; Dr. Adolf Meyer, Baltimore, vice president, and Dr. Earl D. Bond, Philadelphia, secretary-treasurer. The next annual meeting will be in Cincinnati, May, 1927.——Dr. Ethan Allen Gray, Chicago, was elected president, June 17, of the Mississippi Valley Conference on Tuberculosis.——At the annual meeting of the American Orthopsychiatric Association, June 5-6, Dr. Herman M. Adler, Chicago, was elected president; Dr. George H. Reeve, Cleveland, vice president; Dr. Arnold L. Jacoby, Detroit, secretary-treasurer, and Dr. Karl A. Menninger, Topeka, editor.——Dr. Adolph Stern, New York, was elected president of the American Psychoanalytic Association at the annual meeting, June 10, and Dr. Clarence P. Oberndorf, New York, secretary.——At the annual meeting of the American Ophthalmological Society, June 14, Dr. William Zentmayer, Philadelphia, was elected president, and Dr. Emory Hill, 501 East Franklin Street, Richmond, Va., secretary. The next annual meeting will be at Quebec, Canada.——At the annual meeting of the National Association for the Study of Epilepsy, New York, June 7-8, Dr. George Kirby Collier, Rochester, was elected president; Drs. Dan S. Renner, Skillman, N. J., and Thomas B. Bass, Abilene, Texas, vice presidents, and Dr. Arthur L. Shaw, Utica, N. Y., secretary-treasurer. The next meeting will be held at Cincinnati.

American Hospital of Paris.—In the presence of about 1,000 persons, including the president of France, Marshal Foch and Ambassador Herrick, the new Memorial Building of the American Hospital of Paris was dedicated, May 12, at Neuilly-sur-Seine. President Coolidge sent a special message through the ambassador, which was read at the ceremonies. The new 120 bed building, said to be the equal in arrangement and equipment of the best hospitals in America, represents an expenditure of about a million dollars, which was contributed mostly by Americans; there are seventeen dedicated rooms, twenty-four dedicated beds and two memorial wards. Last year, the hospital admitted 813 patients, about one tenth of whom were on a free basis, and in the outpatient department cared for 2,617 patients for whom no charge was made.

In 1904, Americans in Paris started to build a hospital for Americans who became ill while in Europe; this ten bed institution was soon enlarged to thirty-two beds, and that capacity has been inadequate for at least two years. Out of the older American hospital of Paris developed the American Ambulance, where many physicians and nurses of this country volunteered their services and cared for thousands of French wounded before the United States entered the World War. When our troops went to France, this military hospital was turned over to them as Military Hospital no. 1, and was maintained throughout the war by voluntary subscriptions mostly from America. The new building becomes therefore an enduring memorial to Americans who served in France.

New County Society Secretaries.—The following physicians have recently been elected secretary of the county medical society indicated:

Dr. Clarence L. Ayers, Toccoa, Ga., Stephens County Medical Society.
Dr. George E. Borden, Fall River, Mass., Bristol South District Medical Society.
Dr. Alexander H. Colwell, Pittsburgh, Pa., Allegheny County Medical Society.
Dr. Cora Z. Corpening, Virgina Beach, Va., Princess Anne County Medical Society.
Dr. William T. Easley, Greenville, Ill., Bond County Medical Society (reelected).
Dr. John M. Fulton, Audubon, Iowa, Audubon County Medical Society.
Dr. John H. Fowler, East Moline, Ill., Rock Island County Medical Society (reelected).
Dr. Victor A. McClanahan, Aledo, Ill., Mercer County Medical Society (reelected).
Dr. Peter J. McDermott, Kewanee, Ill., Henry County Medical Society.
Dr. William A. Meierding, Springfield, Minn., Redwood-Brown Counties Medical Society.
Dr. Charles Moline, Sunderland, Mass., Franklin District Medical Society.
Dr. Robert Motley, Jr., Dyersburg, Tenn., Dyer County Medical Society.
Dr. Joseph L. Murphy, Taunton, Mass., Bristol North District Medical Society.
Dr. John J. Pendergrass, Leonard, Texas, Fannin County Medical Society.
Dr. Hiram V. Reeves, El Campo, Texas, Wharton-Jackson Counties Medical Society (reelected).
Dr. Claude D. Seaff, Clarksville, Texas, Red River County Medical Society.
Dr. William H. Smith, Benton, Ill., Franklin County Medical Society.
Dr. Deering G. Smith, Nashua, N. H., Hillsborough County Medical Society.
Dr. Ralph E. Stone, Beverly, Mass., Essex South District Medical Society.
Dr. Guy H. Swearingen, Sac City, Iowa, Sac County Medical Society.
Dr. Richard E. Valentine, Tallula, Ill., Menard County Medical Society.
Dr. Benjamin S. Walker, Corydon, Iowa, Wayne County Medical Society.
Dr. Luther O. Whitman, Northampton, Mass., Hampshire District Medical Society.
Dr. Franklin E. Williams, Vienna, Ga., Dooly County Medical Society.
Dr. Edward F. Yeager, Mineral Wells, Texas, Palo Pinto County Medical Society.

United Fruit Company.—This company operates hospitals at Preston, Cuba; Port Limon, Costa Rica; Almirante, Panama; Banes, Cuba; Tela, Honduras; Santa Marta, Colombia; Quirigua, Guatemala, and Puerto Castilla, Honduras, in which in 1925 the total daily average number of patients was 1,064, all of whom, except 189, were employees of the company. The average disability rate (total or partial) among the employees was 25.31 per thousand, and the death rate 13.2. The various respiratory diseases were responsible for 28.54 per cent of the mortality; lobar pneumonia causing more deaths than any other disease in the tropical divisions, malaria causing 14.18 per cent of the deaths; pulmonary tuberculosis, 5.46, and organic heart disease 5.17 per cent. During the year, 12,944 cases of malaria were treated in the company's hospitals, and 103 deaths were directly attributed to that disease; of these fatal cases the blood was positive for malaria parasites in ninety-six; hookworm disease among the laborers seemed to be of minor economic importance as compared to malaria. The fourteenth annual report of the medical department, prepared by Dr. William E. Deeks, has statistics about each division and hospital and reports on tropical diseases by the company's physicians, and papers published by permission of Dr. Aldo Castellani, Tulane University, New Orleans, on "Pruritus Ani and Pruritus Vulvae of Mycotic Origin," and by Richard P. Strong, Harvard University Medical School, on "Spirochetal Infections of Man." During the year, Dr. Roland C. Connor was appointed assistant general manager of the medical department. Dr. Connor spent eighteen years in the Canal Zone, during eleven of which he was chief of the medical clinic at the Ancon Hospital. The following physicians resigned: Dr. Edward B. Ross, Jr., superintendent of

the hospital at Preston, Cuba; Dr. Claud M. Winn, superintendent of the hospital in Puerto Castilla, Honduras, and Dr. Eduardo Urueta, superintendent of the Santa Marta Hospital, Colombia. To fill these vacancies the following appointments have been made: Dr. Jaime de la Guardia, formerly of Santo Tomas Hospital, Panama; Dr. Bruce M. M. Phelps, transferred from the Almirante Hospital, Panama, to the Puerto Castilla Hospital; Dr. Otto T. Brosius, formerly of the Ancon Hospital and the Santo Tomas Hospital, succeeds Dr. Phelps as superintendent at the Almirante, and Dr. Lawrence M. Drennan was engaged as superintendent of the Santa Marta Hospital, Colombia.

LATIN AMERICA

Plague in Ecuador.—There were three cases of human plague in Guayaquil between April 16 and May 15; among 20,040 rats examined during the same period, seventy-four were found to be plague infected.

Society News.—The Argentine Medical Association has elected as president Dr. C. Bonorino Udaondo; secretary general, Dr. M. L. Pérez; director of publicity, Dr. J. Galán, and treasurer, Dr. E. M. Pueyrredón. The *tribunal de honor* comprises Drs. P. Escudero, E. V. Segura, E. Finocchietto, A. Peralta Ramos and B. Maraini.——Dr. M. M. Torino is the newly elected president of the Argentine Academy of Medicine at Buenos Aires.——The newly elected officers for the Chile Surgical Society are Drs. Caupolican Pardo, president; Alvaro Covarrúbias, vice president; F. Opazo, secretary general; A. Inostroza and M. Matus, annual secretaries, and M. Torres B., treasurer.——Dr. A. A. Enríquez is the new president of the Buenos Aires Obstetric and Gynecologic Society.

Personal.—Dr. Rocha Lima, who has been professor of tropical diseases at the University of Hamburg for some time, has returned to his former position as chief of the Brazilian institute of microbiology; he resumes his connection with the Instituto Oswaldo Cruz.——The *Folha Medica* states that the three medical societies of Rio de Janeiro held a joint meeting to welcome Dr. Miguel Couto, president of the Academia de Medicina, from his trip abroad.——The Hamburg medical faculty recently conferred a gold medal on Dr. J. A. Beruti, professor of obstetrics, University of Buenos Aires, for research in his specialty.——The *Semana Médica* relates that Prof. Robertson Lavalle was given a complimantary dinner recently in tribute for his implant method of treating joint tuberculosis.

FOREIGN

Cultist Penalized.—The *Deutsche medizinische Wochenschrift* relates that the Hanover court recently sentenced a faith healer to three months' imprisonment for manslaughter from neglect of due caution. She had allowed a person with grave heart disease to be up and about, contrary to the orders of the physician who had enjoined strict bed rest.

The New Dairen Hospital.—The Dairen General Hospital, Dairen, South Manchuria, moved into its six story building, April 17-23; the new main building accommodates 431 beds, while the isolation hospital, a separate building, contains 150 beds. Dr. G. Totani, who is superintendent of the hospital, studied at the University of Cambridge, England, and Dr. H. Yanagihara, chief of the dermatologic department, recently returned from an extended tour of study to the United States and Europe.

New Surgical Department at Edinburgh.—During the two hundredth anniversary of the medical faculty in the University of Edinburgh, June 11, the reorganized surgical department was formally opened. The department comprises now two parts—a department for teaching and a department of surgical research in separate and contiguous buildings, the former housed in a reconstructed building, which, for generations of students, has been associated with the teaching of surgery, and the latter in a new building, both admirably arranged for the convenience and comfort of teachers and students.

Personal.—About 200 friends of Sir St. Clair Thomson gave a dinner in his honor, June 4, at the Hotel Victoria, London, England, and presented him with a massive silver drinking cup in recognition of his merits in the field of science and as a retired official of the Royal Society of Medicine.——Dr. J. Fibiger, Copenhagen, presided at the Scandinavian Pathology Congress, which met in July; the reticulo-endothelial system was the main topic for discussion.——The *Deutsche medizinische Wochenschrift* states that Dr. Leonor Michaelis, who has been professor of biochemistry for several years at Nagoya University, has accepted a call to Johns Hopkins University as professor of research medicine.——Dr. E. Peiper, director of the university pediatric clinic, Greifswald, was given honorary citizenship, recently, on the occasion of his seventieth birthday.——Dr. E. Weiss of the spa Pistyan is to deliver a course of lectures on "Ectoscopy" (diagnosis by the naked eye). The *Münchener medizinische Wochenschrift* states that the lectures are free, with reduced rates for board and lodging for those attending the course. His method was described in THE JOURNAL, June 19, 1926, p. 1952.

Deaths in Other Countries

Prof. **Edward Babak,** dean of the medical faculty and professor of physiology at Masaryk University, Czechoslovakia, May 29, aged 53.——Dr. **F. B. Hofmann,** professor of physiology at the University of Berlin, aged 56.——Dr. **J. Kratter,** emeritus professor for forensic medicine at the University of Graz, aged 78.——Dr. **R. Barlow,** professor of dermatology at the University of Munich, aged 62.

Government Services

Officers Ordered to Foreign Duty

Orders issued by the U. S. Public Health Service, June 2, assigned Surg. Charles M. Fauntleroy, Ellis Island, to duty at Cologne, Germany; Surg. Richey L. Waugh, Ellis Island, to duty at Cobh, Irish Free State; P. A. Surg. Milton V. Veldee, Cincinnati, to duty at Copenhagen, Denmark; P. A. Surg. Marion R. King, Washington, D. C., to duty at Dublin, Ireland; P. A. Surg. Le Grand B. Byington, Washington, D. C., to duty at Stuttgart, Germany; P. A. Surg. Russell R. Tomlin, New Orleans, to duty at Liverpool, England; Surg. R. L. Wilson has been relieved from duty at Ellis Island, N. Y., and assigned to duty at Rotterdam, the Netherlands; Surgeons W. C. Teufel, W. F. Tanner, and J. F. Mahoney have been assigned to duty at Hamburg, Stuttgart and Bremen, Germany, respectively; P. A. Surg. Francis A. Ashford has been assigned to duty at Bergen, Norway, and P. A. Surg. Lynne A. Fullerton, relieved from duty at Cobh, Irish Free State, and assigned to duty at Oslo, Norway.

Veterans' Bureau Personals

The June Veterans' Bureau Medical Bulletin notes the following resignations from the veterans' bureau: Dr. Harold T. Bibber, Edward Hines, Jr., Hospital, Maywood, Ill., Feb. 17, 1926; Dr. William G. Cassels, as clinical director at Hospital no. 60, Oteen, N. C., March 1, 1926; Dr. Walter K. Foley, Hospital no. 68, Minneapolis, Minn., April 3, 1926; Dr. Meredith W. Hyatt, Hospital no. 79, Outwood, Ky., March 31, 1926; Dr. Karl Schaffle, as bureau representative medical council, central office, May 5, 1926.

Navy Personals

Lieuts. Elmer F. Lowry and Edwards M. Riley, Medical Corps, U. S. Navy, have been qualified for promotion to the rank of lieutenant commander, and Lieuts., junior grade, Asa G. Churchill, Willard S. Sargent and John M. Brewster have been found qualified for promotion to the rank of lieutenant.

The Government Needs Physicians

The U. S. Civil Service Commission announces an open competitive examination for medical officers in which the applications for positions will be rated as received at Washington, D. C., until December 30. Competitors will not be required to report for the examination at any place, but will be rated on their education and training and experience. There are vacancies in the Indian Service, public health service, coast and geodetic survey, Panama Canal Service, Veterans' Bureau and other branches. The entrance salaries range from $1,860 a year to $5,200. Senior medical officers may be promoted to $6,000 after six months, and higher salaried positions may be filled through promotions in accordance with civil service rules. Physicians are especially needed in the specialties, and in general medicine and surgery.

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 19, 1926.

Child Welfare in New Zealand

Visitors to New Zealand often comment on the good health of the children. The country is prosperous, the climate is healthful and the life is good. But much of the health and happiness, both in infancy and in later years, is directly due to the system of training and nursing founded by Sir Truby King nineteen years ago. He held that if mothers were trained on common sense lines to give their babies a good start in life, the first battle of the campaign would be won. So the Royal New Zealand Society for the Health of Women and Children was formed; but the mothers, who owe so much to the organization, call their children "Plunket" babies. Lord Plunket was governor of New Zealand in the first years of the activity of the society, and he and Lady Plunket did much to encourage the work. Under their patronage the Plunket nurses first went out to spread the gospel of healthy babyhood. Now the Plunket system operates from end to end of New Zealand. The Society badge displays the motto: "To help the mothers and save the babies." Sir Truby King, the founder of the society and its moving spirit today, has stated that its policy is "to bring simple common sense, enlightenment, and accurate scientific knowledge and conviction as to the fundamental needs of mother and child into the homes, lay and professional."

The methods are simple. In various centers there are baby hospitals which are also training centers for Plunket and Karitane nurses. The Plunket nurses are qualified midwives who are given a further training in child rearing. The Karitane nurses are not midwives, but are trained to act as baby nurses in private homes. On the completion of their training the Plunket nurses are drafted to the various centers, and their services are then available for all mothers from the antenatal period to the time when the child is out of hand. No fees are charged, even to those who can well afford to pay, for it is desired that assistance should be sought by all and that none should lose the help either because of the cost or because of any distinction between those who pay and those who do not. The offer of help is carried to every home. A few days after a birth is notified to the registrar, the parents receive a letter from the nearest Plunket center offering the advice and assistance of the Plunket nurse.

The value of the system is shown by the way it has extended. There are now more than sixty residential branches of the society employing more than a hundred Plunket nurses, and it is anticipated that by the end of the year the number will be about 120. About 400 subcenters are visited by the nurses from the sixty residential centers. The present estimate of the society is that the minimum proportion of Plunket nurses to the population in order to do full justice to the work should be at least one nurse to each 10,000 of the population, and this, with a birth rate of, say, 23 per thousand, would mean that each nurse would have 230 new babies and 230 new mothers under her care if all availed themselves directly of the Plunket service.

The work has spread beyond New Zealand. In 1918, Sir Truby King established a mothercraft training center and baby hospital in London. Institutions on similar lines are in operation in Australian centers, and one was recently established in Cape Town. Many Australian nurses come to New Zealand for training, and there are Plunket nurses even in Palestine and in remote mission fields. The Plunket nurse is not, however, the whole of the system. There are the mothercraft homes and baby hospitals, called Karitane hospitals from the location of the one first established in Dunedin. In these hospitals, nurses are trained and sick babies receive care.

Since the Plunket system was set on foot, the deaths of babies under 1 year have dropped from 75 per thousand to 40, a world's "record." Gastro-enteritis and infantile diarrhea, at one time responsible for the death of twenty-five babies in 1,000, is now a minor cause of death. In the last three years this one-time scourge of infancy has not caused a death in Dunedin. Sir Truby King and the society, with the active cooperation of the health department, are now giving special attention to antenatal care with a view to lessening mortality in the first month of babyhood, now the most dangerous period. The government last year provided a special vote of $72,500 for the erection of special accommodation attached to the Karitane-Harris Hospital at Dunedin, so that maternity nurses might be given a short intensive refresher course of a month or six weeks, devoted mainly toward the feeding and care of the child in the first month of life.

The London Hospital in the General Strike

How work in several departments of the London Hospital was brought to a standstill, entailing suffering on patients as a result of the cutting off of electric current during the general strike, was described by Viscount Knutsford, chairman of the hospital at the quarterly court of governors. On the first morning of the strike, the electric current was cut off from the hospital. The days were very dark, with the result that, whereas, as a rule, they conducted about fifty serious operations every day, they were unable to carry out any at all. They could not get the operating theaters lighted, and they could not bring the patients up to the theaters. The Finsen light department for lupus had to be closed. The treatment of rheumatism, neuritis and other maladies by radiant heat baths and other forms of electrical treatment was stopped, as was all treatment of cancer and other diseases by roentgen rays. The examination of eye, ear, throat and nose cases had to be discontinued. Operations for cancer and other diseases by cauterization could not be performed. All electric elevators were stopped, and this caused untold inconvenience. All wards and the outpatient departments are fitted with electric sterilizers, and these were out of use. A good deal of the work of the research laboratories was stopped, owing to the dependence on electric motors and light. The workshops attached to the operating theaters, where instruments are mended and sharpened, were also put out of use, while the machinery for grinding drugs for medicines and for making pills and tablets was stopped. The electric drying apparatus in the laundry could not be worked. The general council of the trades union congress, when it issued its pronouncement relating to the general strike, assured the public that it would look after the hospitals. The patients should have their milk and their food, their light and their heat, without let or hindrance. But on the very first morning of the strike (Tuesday) the electric current was cut off with the disastrous effects described. Lord Knutsford went to the offices of the electrical trades union and laid the case before them. The union graciously issued a permit authorizing the supply to the hospital of electricity during the day. But still the light was not turned on, and all day on Friday none was available. The electricians disregarded the union's permit. At last, on Friday night, communication was opened up with the chairman of the Stepney trades council, which, during the strike, dubbed itself the Stepney council of action. When this dictator was asked why the hospital was deprived of its light by day he "alluded to a statement" going about the

district that its outpatient department had been closed in order to enable the physicians to do "blackleg" work. Lord Knutsford bluntly characterized this as "a lying statement." The department had been closed because it could not be lighted, and for no other reason. That was the wretched justification offered, however, and the light was not turned on until late on Saturday, and work could not be resumed till Monday. In a previous letter, a similar complaint of "blacklegging" was made by strikers in connection with Guy's Hospital, and it has also given trouble in Edinburgh. Mendacity characterized a good deal of the strikers' propaganda.

ITALY

(From Our Regular Correspondent)

May 30, 1926.

Hydrologic Legislation

A recent decree published in the *Gazzetta ufficiale* provides that the name of an authorized mineral water and the essential characteristics of its label may not be employed to designate salts destined for the extemporaneous preparation of mineral waters. The labels used to designate such salts must give the qualitative and quantitative representation of the substances that they contain.

The National Federation of Medical Societies

April 17, the general assembly of the Federazione degli ordini dei medici met in Rome under the chairmanship of Professor Gallenga, who presented his resignation, together with that of the federation council. The conventionists passed a resolution to go over to the syndicates of the Fascists. Dr. Fioretti was elected president.

The Associazione fra aiuti e assistenti universitari also has decided to go over to the national syndicates and has elected Professor D'Amico secretary.

Ovation in Honor of Prof. Domenico Barduzzi

Under the auspices of the Pisa Medical Society and of the medical journal *Terme e riviere*, a celebration was held recently at the University of Siena in honor of Prof. Domenico Barduzzi, director of the Dermosyphilopathic Clinic, who is resigning from his post on account of having reached the age limit. Numerous colleagues, pupils and friends presented him with a beautiful medal and also a volume containing writings and documents collected in his honor. To the chair of clinical dermosyphilopathy the medical faculty has called Prof. Ludovico Tommasi.

A "Flower Festival," or Tag Day

A circular letter issued by Hon. Federzoni, minister of the interior, announces that in every commune of Italy, on the first Sunday in June, a symbolic flower will be sold. The proceeds of the sale will be used for tuberculosis work. In important cities, propaganda films will be shown.

Meeting of the Italian Society for the Study of Sex Problems

At the meeting of the Società italiana per lo studio delle questioni sessuali, held in Rome, recently, Prof. Silvestro Baglioni of Rome spoke on the subject of "The Sexual Psychology of Childhood." He holds that, in the first years of life, the child has not, strictly speaking, a sexual instinct or tendency. The interest of the child in sex is awakened by an artificial superstructure, such as reading and lectures, which arouse in him a morbid curiosity and lead to the perception of feelings and to fantastic images that would not otherwise be aroused in him until later in life. He criticized the onesidedness of the freudian conception, which tends to view everything from the sexual standpoint, whereas the greater part of the manifestations of life (especially during childhood) are referable to the instinct of self-preservation.

Medicopedagogic Consultation Center

At the Institute of Experimental Psychology in the University of Rome, a special medicopedagogic consultation center for antisocial juveniles was opened during the past month. The directors and consultants are Professors Ottolenghi and De Santis. The object of the consultation center is to examine, from the anthropologic and psychologic point of view, juveniles affected by anomalies of character or conduct of an antisocial nature. Social welfare workers will then interest themselves in the physical and moral reeducation of the subjects referred to them.

Biotypologic Institutes

For some time past, Prof. Nicola Pende of Genoa has advocated in the medical press and to the national government the establishment of institutes for the study and medicosocial evaluation of human constitutions or biotypes. A recent decree of the minister of public instruction provides for the creation in Genoa of the first of such institutes. It will be located in the Medical Clinic, and Professor Pende will be the director.

The New Law Pertaining to the Protection of Children

The new law pertaining to the protection of mothers and children provides for a national organization, to which numerous duties are delegated, such as aid to expectant mothers and to deserted mothers without means, the organization of free-milk stations and of maternity consultation centers, and the creation of ambulant obstetric centers. The organization will provide, furthermore, for children's dispensaries, health protection for young children, and physical and moral protection for juveniles in school, office and workshop. But the essentially new feature of the law is special restrictions and prohibitions with regard to children or minors. Juveniles under 16 years of age are prohibited from drinking intoxicating beverages in educational institutions or in public places. It is a misdemeanor to sell or give tobacco of any kind to children or juveniles, and the latter are prohibited from smoking in public. The law also restricts the employment of children in the preparation of motion pictures, in circuses, and in all public exhibitions whatever, but allows greater liberty to theaters in the representation of lyric and dramatic works and to motion pictures of an educational scope. Similar restrictions are placed on children in the matter of attending representations of motion pictures, they being limited to films depicting works of art, historical episodes, and scientific, industrial and agricultural experiments, and excluding everything that might prove to be of a passionate or exciting nature. Announcements of motion pictures must indicate whether children under 15 years of age may be admitted.

A New Antituberculosis Pavilion

A new antituberculosis pavilion was recently inaugurated at Milan.

Professor Maragliano Resumes Position in the University

In August, 1924, Prof. Edoardo Maragliano, who was director of the medical clinic of the University of Genoa, reached the age limit and was retired. Recently, however, Professor Maragliano, who is in full possession of his strength and intellect, has resumed university instruction at Genoa as *libero docente*. His course is on the pathology and clinical aspects of tuberculosis. Professor Maragliano is one of the most eminent phthisiologists in Italy.

RIO DE JANEIRO

(From Our Regular Correspondent)

May 15, 1926.

Magnesium Sulphate in the Treatment of Eclampsia

Dr. A. de Moraes has reported before the Medical and Surgical Society some cases of eclampsia treated with intravenous injections of from 10 to 20 per cent magnesium sulphate solution. While such a small series does not justify drawing definite conclusions, there seems to be no question as to the value of the method for controlling the convulsions. Lazard in his first cases used, in addition to magnesium sulphate, bleeding, gastric lavage, glucose solution and morphine, but afterward depended exclusively on magnesium sulphate. Moraes did not have any mishap among his cases, but had always calcium chloride on hand, to block any possible respiratory paralysis. The disappearance of the edema is very striking, as well as the recovery from the torpor, and even coma. Among Moraés' eight cases, there were three deaths. One was in the first patient treated with the new method almost as a last resource, and the other two had no connection with this treatment.

Rare New Growth of the Abdomen

Dr. O. Penna described to the Academy of Medicine a case of rare growth in the abdomen. It proved to be a neuroma of the sympathetic ganglions. The diagnosis was confirmed by Professor Masson in France and Professor Sellen in Germany. The histologic examination showed the true character of the tumor, which weighed 3,800 Gm. In the discussion, Dr. Moreira da Fonseca referred to the similarity of the symptoms to those observed in Recklinghausen's disease. Among twelve cases of this condition, in only four or five were there growths in the peripheral nerves; there were none at all in the abdominal sympathetic system.

Aneurysm of the Femoral Artery

Dr. J. Monjardino described at the same meeting a surgical case of an enormous aneurysm of the femoral artery. The operation proved most successful, and the patient is now in excellent condition. In order to protect the patient's vitality, after tying the external artery, he did not try removal of the sac, but limited himself to opening and emptying the aneurysm, which brought about the obliteration of the sac.

GENEVA

(From Our Regular Correspondent)

June 10, 1926.

"Doctor Knock"

For the last eighteen months an amusing medical comedy has been running at the Paris and Geneva theaters, entitled "Doctor Knock," by Jules Romains, who himself is a physician as well as a dramatist; hence he brings to this piece an intimate knowledge of his profession as well as a very modern mind about letters. Dr. Knock is a mixture of medical man and quack, mostly quack. His object in life is to put money in his purse, although he incessantly describes himself as a devotee of medical science. He buys the practice of Dr. Parpalaid at St. Maurice, making the bargain by post, and finds when he arrives in St. Maurice that the practice hardly exists. The inhabitants of that place are nearly all healthy: a pretty prospect for young and impecunious Dr. Knock. So he decides to persuade the people of St. Maurice and the surrounding district that they are all frightfully ill, from malignant diseases of long evolution, or that they are suffering from incipient maladies that may become malignant; and in three months he has the local hotel turned into a hospital, and every bed in the place is occupied by a perfectly healthy person who is convinced that he or she is on the verge of the grave. The druggist quintuples his income; Dr. Knock himself has an astrakhan coat and an expensive motor car; and everybody in the town is swallowing pills or tablets or some sort of medicine. No wonder that Dr. Parpalaid, when he returns to St. Maurice to collect the first instalment of the purchase money, feels inclined to cry off the bargain; but so persuasive is Dr. Knock that before he knows what is happening to him, Dr. Parpalaid, too, is swallowing pills and getting ready to go to bed. The play was produced in London a few weeks since, so it will soon be seen in the United States. If the English version of the French is well done and if the acting is good, the physician will pass a heartily merry evening. But the play requires brilliant acting as well as brilliant production if it is to amount to anything. It is an excellent satire on Coué's methods of treatment.

Pancreatitis

The subject of pancreatitis is preoccupying the Swiss medical profession. A clinical sign not generally known is that, if the patients are kept under observation long enough, an inverse type of temperature will frequently be noted with an evening drop, or at least no evening rise. Thanks to this sign, a diagnosis has often been possible in doubtful cases. The rational treatment of mild chronic pancreatitis is still a moot subject. The etiology must never be overlooked. Hepatic colic is an indication for operation, while gastric or duodenal ulcers require medical or surgical treatment. Pancreatic preparations are indicated when signs of pancreatic insufficiency are present and may give good results. The diet should be regulated according to the signs of insufficiency, and the best guide is examination of the feces. Fasting and extragastric administration of liquids are the best means of giving rest to the pancreas. For some time past, the Swiss surgeons have been operating in chronic pancreatitis in order to obtain permanent drainage by cholecystenterostomy or choledochoduodenostomy, with not a little success. Incision of the capsule of the pancreas has also been found to cause retrogression of the symptoms, but the more advanced the atrophy of this gland, the less is to be expected from surgical intervention. In pancreatic necrosis, operation is urgently required and Swiss statistics show that 66 per cent of patients recover; but even a delayed operation may sometimes be successful, and the Swiss surgeon Guleke says that here again one should operate, as this is the best means of preventing the development of a chronic pancreatitis.

Society for Mental Hygiene

The Geneva Society for Mental Prophylaxis, founded in 1906, recently celebrated its twentieth anniversary, and on this occasion a lecture was delivered by Dr. Gentil-Perrin of Paris. The lecturer stressed the contemporary movement in favor of mental prophylaxis, which was set in motion in the United States, in 1909, by Adolf Meyer and William James, and stated that it was the American Committee of Mental Hygiene that had inspired all similar European institutions. In 1920, Dr. Toulouse founded the French League of Mental Hygiene, with the collaboration of Justin Godart, Frederick Brunet and Henri Roussel. In 1921, the lecturer himself founded the service of mental prophylaxis at the St. Anne hospital for the insane at Paris.

Case of Primary Sarcoma of Spleen

A case of primary sarcoma of the spleen has recently been observed at the medical clinic of the University of Geneva (service of Professor Roch) and has been studied by Dr. E. Terzian. Terzian's patient died before operation could be done; the spleen weighed 80 Gm. and did not extend below the costal border. The tumor felt on palpation proved to be

a retroperitoneal mass of lymph nodes, the result of metastasis. As pointed out by Professor Roch the most difficult differential diagnosis is between tuberculous splenomegaly and primary sarcoma of the spleen.

Association of Abstaining Swiss Physicians

An appeal to the Swiss medical profession to join a newly founded antialcoholic organization—the Association of Abstaining Swiss Physicians—has just been issued. It is pointed out that alcoholism is a social disease that must be suppressed. According to Professor Millier, who is not an abstainer, the Swiss people consume a quantity of alcohol four or five times greater than he considers inoffensive. In Switzerland, 25 per cent of admissions of male patients to insane hospitals are due to alcoholism, as well as several thousand deaths annually. Today the physician by his teaching and his example should be a champion of sobriety.

Birthday of Professor Sahli

May 27, the Faculty of Medicine of Berne celebrated the seventieth anniversary of Prof. Hermann Sahli, who has filled the chair of clinical medicine for nearly forty years at the University of Berne. On this occasion the municipal council announced that it had decided that one of the streets of Berne should bear the name of Hermann Sahli.

Death of Dr. Hotz

Dr. G. Hotz, professor of clinical surgery, and chief of the surgical clinic of the University of Basle, died on June 4, at the age of 46, from a chronic gastric affection. Professor Hotz was well known for his writings on abdominal and intestinal surgery and also for blood transfusion.

Retirement of Dr. Roux

It is officially announced that Dr. César Roux, professor of clinical surgery at the University of Lausanne, will retire, October 15. Dr. Roux has been chief of the surgical service of the cantonal hospital since March, 1887, and professor since 1890. His world-wide reputation renders comment unnecessary.

JAPAN

(From Our Regular Correspondent)

June 15, 1926.

Decoration and Medal for Physicians

Dr. Charles Achard, general secretary of the medical section of the French Academy, who has been in this country since last March, has been decorated by the emperor of Japan.

Baron Dr. Kitasato, who became a member of the Royal Society of London in 1907, has lately been presented with the honorary medal from the institute. He is the first who has been honored with this medal in the Far East.

New Medical Institutes of Tokyo University

The urologic and physical therapeutics departments in the medical college of the Tokyo Imperial University, which have been attached to other institutes of the college, are to be established as independent institutes: each institute will have its staff, consisting of a professor, an assistant professor and two assistants. Drs. Negishi and Manabe will be appointed directors of the urologic and the physical therapeutics institutes, respectively.

Pan-Pacific Science Congress

The third meeting of the Pan-Pacific Science Congress is to be held in Tokyo, for about ten days, from October 30 till November 11. A number of delegates from quarters bordering on the Pacific Ocean have signified their intention of attending the meeting. Dr. Wilbur of Stanford University is to be medical delegate from the United States of America.

English will be the official language of the meeting. The following three topics will be discussed in the medical section:

1. The distribution, prevention, and treatment of various diseases endemic on the coasts of the Pacific Ocean.

2. The distribution, symptoms, prevention and treatment of amebic dysentery, ancylostomiasis and schistosomiasis (japonicum).

3. The relation between the climate at various points on the coast of the Pacific Ocean, and the food, clothing and residence of the inhabitants there.

There will be tours to Hokkaido, Nikko and Hakone from the 18th till the 29th of October, before the meeting. After the meeting, another tour will include Kyoto and Nara, old capitals; Osaka, center of industry and commerce; Kyushu, Shikoku and Miyajima.

Saiseikai Charity Association

The Saiseikai Charity Association was organized in 1911 according to the wishes of the late Emperor Meiji, who was very kind to the poor and sick and made a personal donation to the funds of the association. Funds and number of members are now greatly increased. Six charity hospitals are established in Tokyo, and there are 103 consulting offices throughout the country. May 31, the association will hold its fifteenth anniversary in Tokyo, and the empress will attend.

Law Concerning Cow's Milk

The health bureau of the home department is intending to amend the present law regulating the sale of cow's milk, which was enacted in 1900, and has proposed certain topics to be discussed in the meeting of experts. These topics will include regulation of the production, pasteurization and grading of milk and the manufacture of milk products.

Nurses and Typhoid

As a method of prevention of typhoid, the health department of the metropolitan police has ordered the police stations in Tokyo to examine nurses and assistant nurses. In 1924, 145 nurses, and in 1925, seventy-five nurses in Tokyo died of typhoid. The authorities are intending to eliminate bacillus carriers among nurses.

Golden Anniversary of Hokkaido University

The Hokkaido Imperial University celebrated its golden anniversary, June 14, presided over by Professor Sato, president of the university, in the presence of Prince Takamatsu, other men of distinction, and more than 1,500 people, including former professors and old graduates of the college.

In the ninth year of Meiji, an agricultural college was established at Sapporo by the governor of Hokkaido, Count Kuroda. Prof. Dr. William Clark came from the Massachusetts Agricultural College, accepting the position of adviser to the governor, and set up the college after the fashion of American colleges in the city of Sapporo, a beautiful place, with elm trees along broad streets. The American pioneer transplanted American civilization into this northern part of young Japan, and cultivated his pupils morally as well as intellectually. He is gone, but his famous saying, "Boys, be ambitious!" is still living, and now in the university are three colleges, including agriculture, medicine and engineering.

On the 30th, when Professor Sato called at the hotel of Prince Takamatsu, the prince asked several questions about the university, and was pleased to donate some money to encourage the faculty in researches for developing Hokkaido.

Income and Nourishment

Beginning in September this year, and ending in August next year, the statistics bureau of the government will investigate the relation between income and nourishment. The

authorities will select some suitable families in Tokyo and five other cities, and in seven prefectures in different districts of this country, and will give them a household book prepared for recording daily income and expenditure. Dr. Takahira of the government dietetic laboratory is to employ the household books in deciding standard caloric value of nourishment.

The Japan White Cross

The Japan White Cross Society, which was established in 1910 and has done much antituberculosis work since then, celebrated its fifteenth anniversary in Tokyo, May 29. The health bureau of the department of home affairs has advised the governors of Tokyo, Kioto and Oskato to establish prefectural tuberculosis sanatoriums and consultation offices in their prefectures.

The Japan Epidemic Association

Antiepidemic organization is almost perfect in this country, but synthetic studies of epidemics are rather neglected.

An association is projected for making synthetic studies of epidemics and correlating the knowledge of scientists in colleges or laboratories and of private practitioners. June 1, a meeting was held in Tokyo and the regulations of the new society were drawn up. The association intends to publish a monthly magazine.

BERLIN

(From Our Regular Correspondent)

May 29, 1926.

The Congress of Psychotherapy

The Congress of Psychotherapy was held in Baden-Baden, April 17-19. Dr. Eliasberg of Munich delivered the address of welcome and Professor Sommer of Giessen the presidential address. Prof. H. Kehrer of Münster presented the first paper, on "Psychotherapy and Psychiatry." He brought out that psychotherapy was turning away from pure organo-anatomic research (notwithstanding the fact that such research had accomplished much in the field of brain pathology), and was studying the diseased psyche, discovering the individuality of the healthy and the diseased person, and was making incursions into the land of the almost unknowable (dream interpretation). Professor Schilder of Vienna spoke on the psychotherapy of psychoses. He advocates, in psychanalytic treatment, the occasional use of adjuvants in the form of drugs (hypnotics), in order to get in closer touch with the psyche. Hansen of Heidelberg discussed the relations between internal medicine and psychotherapy. He emphasized that psychic treatment must not lead to careless physical examination.

The third main paper was presented by Prof. H. Walthard of Zurich, on psychotherapy in relation to gynecology. Pains and hemorrhages in women may spring from psychic causes. If the gynecologist has ruled out all bodily causes, he will refer the person to the psychotherapeutist. Prof. Hans Maier of Burghölzli discussed the details of the collaboration with the Women's Clinic. Which method of treatment (hypnosis, analysis, catharsis, persuasion) it is best to employ must be left to the judgment of the psychotherapeutist.

Professor Sommer treated the problems of predominant and of subordinated ideas and the significance of the play of the facial muscles. With the approval of the assembly, he wired greetings to Professors Forel and Freud. Sack of Baden-Baden reported on dermatologic affections and their psychotherapeutic treatment. H. Jaensch discussed the constitution in relation to the psyche. The pediatricians Professor Gött of Bonn and Professor Husler of Munich sounded a note of caution in dealing with the psyche of the child but reported good results.

During the discussion, Magnus-Hirschfeld of Berlin referred to the Bissky apparatus for the alleged electrical determination of special qualifications, which is being so widely advertised at the present time. The assembly decided to take no action in the matter until the scientific commission appointed to investigate the apparatus had made its report. Seif of Munich and Grünthal of Berlin called attention to the harm that was being done by psychanalytic treatment at the hands of unqualified laymen. Dr. Kläsi of Basel presented a paper on neuroses due to accidents. Professor Maier of Zurich stated that in such cases Switzerland had found it usually expedient to make a final money settlement, which was, of course, impossible under the present German law. Hahn of Baden-Baden considered the method proposed by L. Frank of Zurich of the living over again of forgotten conflicts in a half-waking condition for the purpose of building up the patient's personality.

The Female Population in Germany

Since the reorganization of Germany in 1871, there has always been an excess of women over men. June 16, 1925, the population of Germany was 62,539,098, of which 30,183,567 were males and 32,355,531 females. The excess of women over men was thus 2,171,964, or 7.20 per cent. In 1875, the excess was only 753,958, or 3.56 per cent. The condition is of course due to the fact that the war losses affected chiefly the men. The number of war dead will reach at least two million. In considering the figures for 1925, it should be recalled that, by the treaty of Versailles, the territory of Germany was diminished, and, furthermore, that, owing to the fact that the Saar region was not being administered by the German government, it could not be included in the census of 1925.

Census Year	Male Population	Female Population	Excess of Women	Number of Women to 1,000 Men
1875.....	20,986,701	21,740,659	753,958	1,036
1885.....	22,933,664	23,922,040	988,376	1,043
1895.....	25,661,250	26,618,651	957,401	1,037
1910.....	32,040,166	32,885,827	845,661	1,026
1925.....	30,183,567	32,355,531	2,171,964	1,072

If one examines the increase in population in the various German states, it will be seen that in every state the increase of the female population is vastly greater than that of the male population. However, the excess of females over males appears to be showing signs of diminishing through the natural relationship of births and deaths; for, during the intercensus period 1910-1925, the number of males who died was 2,550,000, in round numbers, and the number of female decedents was about 2,520,000, while 4,310,000 boys and only 4,010,000 girls were born. It will be seen that the excess of births over deaths was 1,760,000 for the males and only 1,490,000 for the females.

Marriages

NELSON BENSON SACKETT, New York, to Miss Elizabeth Noble Gray of Harwichport, Mass., July 6.

HENRY REX AMBERSON to Miss Nelle Davern, both of Chicago, at Crown Point, Ind., May 6.

ERNEST G. DITTMER, Manchester, Iowa, to Miss Anna Rosell of Sioux Rapids, Iowa, June 7.

LOUIS C. ARP, Moline, Ill., to Miss Eleanor M. Harned of Davenport, Iowa, June 24.

MUNSON R. BIXEL to Miss Hallie M. Moser, both of Pandora, Ohio, June 12.

Deaths

Dennis Alois McAuliffe ⊕ New York; Medical Department of the University of the City of New York, 1892; formerly professor of operative surgery, Fordham University School of Medicine, and adjunct professor of operative surgery and gynecology at the New York Post-Graduate Medical School; served during the World War; at one time on the staffs of the Penitentiary Hospital, Blackwell's Island, and the Brooklyn City Prison; on the staff of the Misericordia Hospital, where he died, June 14, aged 56, following a long illness.

Robert Bruce Wilson ⊕ Oriskany Falls, N. Y.; Syracuse University College of Medicine, 1894; served during the World War; on the staffs of the Faxton Hospital, Utica, Broad Street Hospital, Oneida, and Rome (N. Y.) Hospital; aged 53; died, May 23, of angina pectoris.

Wilbur Scott Conkling ⊕ Des Moines; Drake University College of Medicine, Des Moines, 1897; formerly assistant professor of surgery at his alma mater; served during the World War; aged 52; died in June, of chronic tuberculous pleurisy and chronic pericarditis.

Worth Scott George, Antioch, Calif.; Kentucky School of Medicine, Louisville, 1887; city health officer of Antioch for many years and formerly health officer of Contra Costa County; aged 71; died, May 20, of cerebral hemorrhage.

Edward James Meyer, Somerville, Mass.; Dalhousie University Faculty of Medicine, Halifax, N. S., Canada, 1893; member of the Massachusetts Medical Society; served during the World War; aged 56; died in April, of myocarditis.

Sarah C. Hall, Elgin, Ill.; Woman's Medical College of Pennsylvania, Philadelphia, 1870; formerly on the staff of the Mercy Hospital, Fort Scott, Kan.; aged 91; died, May 30, of hypostatic pneumonia and senility.

Henry C. Stuhr ⊕ Minneapolis; University of Minnesota Medical School, Minneapolis, 1900; on the staffs of St. Barnabas and Northwestern hospitals; aged 52; was killed, June 6, in an automobile accident.

Ralph Tenney Sowden, Slatedale, Pa.; University of Michigan Medical School, Ann Arbor, 1879; for many years president of the board of education; aged 75; died, May 30, of pneumonia, following influenza.

Preston R. Burrus, Nashville, Tenn.; Meharry Medical College, Nashville, 1889; emeritus professor of anatomy at his alma mater; also a druggist; aged 68; died, June 8, of angina pectoris and nephritis.

Joseph Hercule Roy ⊕ Kankakee, Ill.; University of Montreal Medical Faculty, Montreal, Que., Canada, 1886; aged 65; died, June 15, at the Mercy Hospital, Chicago, following an operation for carcinoma.

Frederick D. Williamson, Canisteo, N. Y.; Medical Department of the University of the City of New York, 1891; aged 61; died, March 25, at St. James Hospital, Hornell, of carcinoma of the pancreas.

Frank Lecortis McKinney, Galena, Kan.; University Medical College of Kansas City, Mo., 1908; member of the Kansas Medical Society; member of the city council; aged 47; died, May 15, of tuberculosis.

Joseph Wiley Harrison ⊕ Guthrie Center, Iowa; State University of Iowa College of Medicine, Iowa City, 1896; proprietor of a hospital bearing his name; aged 55; died, June 6, of septicemia.

Russell James Hemphill, Plymouth, Iowa; Northwestern University Medical School, Chicago, 1892; member of the Iowa State Medical Society; aged 63; died suddenly, April 30, of heart disease.

Josiah W. Dillon, Coshocton, Ohio; University of Wooster Medical Department, Cleveland, 1879; member of the Ohio State Medical Association; aged 73; died, May 2, following a long illness.

William T. Rogers, Trenton, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1885; aged 63; died, May 15, of cerebral hemorrhage following chronic interstitial nephritis.

Joseph Henry Lawrence, Pendleton, S. C.; Medical College of Virginia, Richmond, 1890; served during the World War; aged 55; was found dead, May 17, of a bullet wound received accidentally.

Jennie Esther Mathers, Nashville, Tenn.; University of Louisville School of Medicine, 1925; aged 26; died, April 21, of bronchopneumonia and septicemia, following a furuncle on the face.

Herbert Oswald Redden, Outlook, Sask., Canada; Queen's University Faculty of Medicine, Kingston, Ont., 1906; aged 43; died, May 21, at St. Paul's Hospital, Saskatoon, of meningitis.

Joseph Ambrose Higgins ⊕ South Manchester, Conn.; College of Physicians and Surgeons, Baltimore, 1907; served during the World War; aged 43; died, May 24, of heart disease.

Joshua B. Vought, Santa Rosa, Calif.; Homeopathic Medical College of Missouri, St. Louis, 1884; formerly a practitioner in Iowa; aged 76; died, May 10, following a long illness.

John Franklin Campbell ⊕ Massillon, Ohio; University of Western Ontario Medical School, Toronto, Ont., Canada, 1899; aged 52; died, June 5, of a self-inflicted bullet wound.

Robert E. Graul ⊕ St. Louis; St. Louis College of Physicians and Surgeons, 1895; on the staff of the Lutheran Hospital, where he died, May 29, following a long illness, aged 56.

Jeremiah Christopher Anthony, Springfield, Mass.; Jefferson Medical College of Philadelphia, 1891; aged 60; died, March 29, of bronchopneumonia and chronic endocarditis.

Thomas W. Blakey, Auburn, Ky.; Jefferson Medical College of Philadelphia, 1882; aged 67; died, June 14, at St. Francis Hospital, San Francisco, of aortic insufficiency.

John A. Kimbrough ⊕ Thomasville, Ala.; Louisville (Ky.) Medical College, 1898; formerly county health officer; aged 54; died, June 7, of endocarditis and septicemia.

Gilbert Totten McMaster, New York; Jefferson Medical College of Philadelphia, 1898; aged 52; died, June 9, at the Bellevue Hospital, of cerebral hemorrhage.

Clarence James Willard, Wauzeka, Wis.; University of Illinois College of Medicine, Chicago, 1909; aged 42; died suddenly, May 17, of heart disease.

George Franklin Hilton ⊕ St. Augustine, Ill.; College of Physicians and Surgeons, Keokuk, 1879; aged 70; died, June 3, following a long illness.

Thomas Barker Williams, Ridgeway, N. C.; University of Maryland School of Medicine, Baltimore, 1877; aged 71; died, May 3, following a long illness.

Cornelius Skinner, Louisville, Ky.; University of Virginia Department of Medicine, Charlottesville, 1882; aged 65; died, June 16, of heart disease.

Lorenzo G. Hill, Mulberry, Ark.; University of Tennessee College of Medicine, Memphis, 1892; aged 64; died, May 17, of cerebral hemorrhage.

A. Robert Able, St. Matthews, S. C.; University of Georgia Medical Department, Augusta, 1880; aged 76; died, May 14, of cardiorenal disease.

William D. Huff ⊕ Santa Rita, N. M.; University Medical College of Kansas City, Mo., 1900; aged 50; died, May 30, of pneumonia.

Jesse F. Cleveland, Spartanburg, S. C.; Jefferson Medical College of Philadelphia, 1869; Civil War veteran; aged 79; died, May 1.

George Duncan Allen, Portland, Mich.; Cleveland University of Medicine and Surgery, 1866; aged 87; died, May 27, of senility.

Wilbur C. Heskett, Hammond, Ind.; Kentucky School of Medicine, Louisville, 1886; aged 67; died, June 14, of heart disease.

John White Geary, Burns, Ore.; Willamette University Medical Department, Salem, 1883; aged 75; died, May 20, of uremia.

James F. West, Brookville, Ind.; Kentucky School of Medicine, Louisville, 1891; aged 69; died, May 6, following a long illness.

Carl Frischkorn, Oak Park, Ill.; Hahnemann Medical College and Hospital, Chicago, 1891; aged 80; died, May 1.

Silas R. Wilcox, Bennington, Vt.; Metropolitan Medical College, New York, 1864; aged 86; died, May 19.

James P. Carpenter, Ithaca, Mich.; Detroit Medical College, 1884; aged 80, died, May 20, of prostatitis.

Henry G. Allan, Louisville, Ky.; Kentucky School of Medicine, Louisville, 1853; aged 95; died, May 20.

George Hare, Kirkland, Texas; American Medical College, St. Louis, 1883; aged 86; died, May 13.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

ANIMASA NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Animasa, according to the Organo-Therapeutic Corporation, New York, "is a preparation obtained from intima and media of arteries of young and sound fat cattle, foetal extract,

ANIMASA
Registered ® Trade Mark
A new successful treatment for
HYPERTENSION and
ARTERIOSCLEROSIS
An organic preparation used successfully by the medical profession in America and Europe
No Injections! No reactions!
Informative folders sent on request
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109 W. 57th Street - - New York

by-products of erythrocytes and serum." It is said to be put up "in the form of a pellet, which is sugar coated and is administered by mouth. Each pellet contains 0.03 Gm. of the efficacious substance." No information is furnished in regard to the method by which the preparation is obtained, or the proportion of the several declared ingredients; nor are any data submitted to show that the uniformity of the mixture is controlled in any way. Animasa is stated to be manufactured by the Organotherapeutische Werke, G. m. b. H., Osnabruck, Germany.

According to the Organo-Therapeutic Corporation, Animasa presents "The new method of treating hypertonus and arteriosclerosis." In the firm's advertising it is claimed that Animasa "activates protoplasm generally and produces a specific focal reaction. . . ." "Secondly, it desensitizes foreign products of protein decomposition found in the sera of patients suffering from hypertonus and arteriosclerosis. . . ." It is further stated that:

"Animasa, because of its composition has the following properties: 1. *Desensitization* because of the special reduced products of protein decomposition (Eiweiss abbauproducte) present in Animasa, which has been shown conclusively that they will desensitize the foreign products of protein decomposition (Eiweiss abbaustoffe) found in the blood of patients suffering from Hypertonus and Arteriosclerosis. 2. *Blood pressure reducing.* 3. *Organotropic*—beneficial effect on the arterial walls because of the extract of intima and media."

The following are two of the anonymous testimonials included in the advertising for Animasa:

"For the last several months I have been using Animasa on patients suffering from hypertonus and arteriosclerosis with successful results in each instance. S. E. W., M.D., New York, N. Y."

"I have tried Animasa frequently and it always produced what it is claimed for it, i. e., a reduction of blood pressure and a disappearance of subjective symptoms. A. H. S., M.D., New York, N. Y."

A review of a number of reprints of reports on Animasa, submitted by the distributor, shows:

Griesbach (Giessen) (*München. med. Wchnschr.* **69**:1696, 1922). Animasa lowers blood pressure in both normal and pathologic conditions in man and in horses and dogs. In some cases in man, blood pressure fell after the use of Animasa, but rose soon after discontinuing it. In one patient the pressure fell from 210 mm. of mercury to 156 mm.—after Animasa, and soon after the patient became uremic and died.

Blumenfeldt and Cohn (*Med. Klin.* **20**:1320, 1924) used Animasa in twenty-seven cases. In twenty-two, there was subjective improvement and in fourteen objective and subjective improvement; of fourteen patients with a blood pressure below 200, in ten the blood pressure was lowered after Animasa, and in four it was not lowered. Of ten cases with blood pressure over 200, one showed a lower blood pressure and nine did not. Other reports are more enthusiastic and less critical.

It is well known that various tissue extracts and preparations will produce a lowering of blood pressure. In most of the normal cases cited in connection with the administration of Animasa, there was depression of blood pressure of a few millimeters only. In the case reports no consideration is given to the unfavorable results of lowering the blood pressure in patients with damaged kidneys.

The Council finds Animasa unacceptable for New and Nonofficial Remedies because it is a preparation of indefinite composition; because no evidence is submitted to show that its composition and uniformity are controlled; and because it is marketed with unwarranted therapeutic claims.

SULCITACIUM NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

"Sulcitacium" is the name applied by the Davis-Johnson Company, Chicago, to capsules proposed for the treatment of hypertension. The advertising which the Davis-Johnson Company sends out contains no definite statement of the composition of Sulcitacium; it is declared to be "a combination of the soluble mineral salts found in the normal blood plasma."

Sulcitacium is stated to be "a remineralizing food, rather than a medicinal preparation" and that it must be given for at least three weeks to obtain results. The promoters assert

Sulcitacium 250
(PLASMOGEN)
Indicated in the Treatment of Hypertension
DOSAGE
Contents of one capsule dissolved in a glass of water, to be taken before breakfast and dinner.
As Sulcitacium is non-toxic and non-irritating the dose can be increased if desired.
DAVIS-JOHNSON COMPANY
61 East Lake Street • Chicago, Ill.

that Sulcitacium "is giving unusual results *which persist.*" The following is offered as the "rationale of therapy":

"It has been suggested that the underlying cause of such conditions [hypertension] is a deficiency in the normal mineral content of the blood plasma."

"The argument is that the blood toxins and the blood minerals form soluble compounds that may be thrown off through the kidneys."

As evidence for the effectiveness of treatment with Sulcitacium case reports by a physician are offered. There appears to be no support either in physiology or in internal medicine for the claim that administration of any quantity of inorganic salts normal for the blood will control acute essential hypertension. We cannot materially or consistently raise the inorganic salts of the blood by administering, at least in moderate doses, those salts by mouth provided the kidneys are normal. Secondly, lowering the salts of the blood experimentally does not produce hypertension. Thirdly, there appears to be no evidence of essential decrease of any of the inorganic salts of the blood in essential hypertension. It would be interesting to learn why it is necessary to administer the preparation

for three to four weeks or even up to four months before effects are produced, in view of the fact that ordinarily the inorganic salts normal to the blood are quickly absorbed from the intestinal tract.

Seven cases are cited in which there was recorded a reduction in blood pressure following the use of Sulcitacium. The records do not state whether other treatment, such as modification of the diet or regulation of the bowels, was given at the same time or continued after Sulcitacium was stopped. The observations are too few in number and not sufficiently detailed to allow of the conclusion that the use of the remedy caused the continued lowering of blood pressure.

Sulcitacium is unacceptable for New and Nonofficial Remedies because its composition is not declared and because the therapeutic claims advanced for it are not supported by acceptable clinical evidence.

Correspondence

POSTGRADUATE STUDY IN EUROPE

To the Editor:—The difficulty that I experienced recently before going abroad in obtaining information regarding certain aspects of postgraduate work in Europe makes me think that a few words may help avoid wasteful lessons.

Regarding actual traveling aspects, one's financial ability is the guiding factor and controlling influence.

What is the best time for getting an opportunity to work? There is a particular seasonal advantage, no matter what the study or specialty may be. That period covers the time when most of the university professors are teaching—from September to July. During July and August, because of the vacation season, the curricular schedule is irregular, and much time is lost waiting for courses to begin.

The work that I was particularly interested in was gynecology and obstetrics, and the following applies to these specialties.

Registration with the American Medical Association of Vienna is more or less advantageous. The best guide in the choice of courses is the "orientation man," who is a member of the association and is supposed to be, and usually is, quite well informed about courses in the specialties for which he is acting as orientation man. Even with this arrangement as an aid, one can expect to waste a few weeks before navigating on his own initiative without this voluntary pilot's assistance. The job of orientation man has now been passed to a resident physician and member of the association in whom the duties of the orientation man are vested. It is his business to arrange and post on a bulletin board courses for all the specialties. Besides the aid obtained in arranging courses according to the method of procedure as described, other benefits are derived, such as reduction in group course fees and the use of the library. Membership in the American Medical Association abroad is not obligatory for procuring work. However, to a stranger, the organization and all it stands for helps materially. There are, however, priority rules governing allotment of courses to members entitled to such priority, by virtue of their longer residence in Vienna; but those may be avoided by arranging for private individual courses. Arbitrary as the priority rule may seem, there are nevertheless distinct advantages gained by this arrangement. The American Medical Association with its group course plan acts as a buffer against increased tuition fees, to which otherwise there would be no limit. To cite a particular example wherein fees might be raised, as in the cadaver operative courses when the demand for cadavers far exceeds the supply, the American Medical Association acts as a curb. Yet for the man who finds that the priority rule upsets his schedule and who loses hope of ever dovetailing his courses without a resultant loss of time and money while awaiting his turn, the private courses are a great boon even though the initial expense is greater. The satisfaction derived from time saved in this way cannot entirely be disregarded. Men who come over to take a "Cook's Tour" through European clinics for postgraduate study do not come under this category.

Outstanding features in gynecology and obstetrics are the anatomy, pathology and cadaver operative courses. For 350,000 kronen, equivalent at present to $5 in American currency, a pelvis can be obtained at the Anatomic Institute. The pelvis can be kept for as long a time as is necessary to complete the dissection. Consequently, several such pelvises can so be dissected. To complete this work, a course in topographical anatomy of the abdomen and pelvis can be taken with the docent of the Anatomic Institute. He leaves nothing to the imagination.

Didactic obstetric and gynecologic pathology and endocrinology are given at the First Frauenklinik.

Cadaver operative work can be taken with several of the docents affiliated with the First Frauenklinik and the Second Frauenklinik. The men giving these courses are excellent operators and well versed in anatomy. Their instruction is thorough, and their methods are never pedantic. Cadaver operative courses can also be obtained in some of the outlying hospitals.

Touch courses in gynecology and obstetrics are given at the clinics named. The manikin courses in obstetrics are excellent.

Operative work on the living in gynecology or obstetrics cannot be had in Vienna, but much can be learned by visiting the different operators and observing and questioning the rationale of their methods.

Didactic courses in gynecologic operative technic, roentgenray and radium therapy, diseases of the new-born, dermatology, with especial emphasis on the commoner skin diseases of the female external genitalia, and combined lecture and practical courses in cystoscopy and ureteral catheterization, proctoscopy, physiotherapy and electrotherapy particularly stress all points that relate to gynecology. Other courses to suit the individual needs can be arranged either at the university clinics or at the clinics of outlying hospitals.

So much for Vienna and about Vienna. The work is perhaps better organized there for American physicians than anywhere else in Europe. Most of the courses can be taken in English, but the greatest benefit in studying in Austria or Germany is derived by those who speak or understand German.

Budapest is about five hours by train or about two hours by air from Vienna. The headquarters of the American Medical Association of Budapest are at the Hotel St. Gellért. Before coming to Budapest, it is imperative that advance arrangement for work be made. It depends entirely on the number of American physicians in Budapest seeking operative work as to the amount of work that is going to be available. If one is fortunate enough to strike it off season, one will be kept very busy operating on the living almost every morning of the week. Otherwise time is wasted in waiting for one's turn. It is also advisable to find out how many men are signed up with the man that one plans to work with during a certain time. Rules and restrictions of the American Medical Association are supposed to govern this phase of the work, yet the rules are not always lived up to by the operators, and more men are frequently signed up than there is work for, thus resulting in serious loss of time.

Each man is taken on as assistant until he proves his mettle; then operative work is turned over to him under constant supervision.

Operative work can be arranged for by paying per month or per operation. The latter method is the preferable one because one pays for what one gets.

More and more of an effort is being made to organize better the postgraduate work in Budapest. In this direction the combined efforts of the Hungarian Medical Postgraduate Committee and those of the American Medical Association of Budapest are concentrated.

Recently during my incumbency in office as president of the American Medical Association of Budapest, Dr. Joseph Baló, secretary of the Hungarian Medical Postgraduate Committee, was elected honorary member of the executive committee of the association and is now virtually acting as resident member of the association, endeavoring actively to promote postgraduate studies of English-speaking physicians in Hungary.

The ideal plan is to get through with such studies as one plans to take in Vienna and then come on to Budapest to complete the courses that for various reasons cannot be obtained in Vienna.

Certificates for work done both in Vienna and in Budapest are issued only to members of the American Medical Association of Vienna and Budapest.

In Berlin, studies for American physicians are not organized. In Paris and London, organization is becoming more apparent.

The official blue book of the American Medical Association of Vienna may be obtained by writing to the association addressed to Vienna; likewise, the official yellow book of the American Medical Association of Budapest by writing to Dr. Joseph Baló, Maria-Utca-39, Budapest, Hungary.

HERMAN F. STRONGIN, M.D.,
239 West Seventy-Fifth Street,
New York.

President ex-officio, American Medical
Association of Budapest.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SMALLPOX AND VACCINIA

To the Editor:—I have always had the impression that, in case of exposure of nonprotected persons to smallpox and vaccination following exposure, either smallpox or vaccination might ensue, but not both. In three recent cases, persons vaccinated and the vaccination being successful, about the stage of vaccine pustule there has been a typical discrete smallpox eruption, with the usual stages, and not more marked near the vaccination than elsewhere. These cases were considered as vaccinia and the patients were not quarantined, but in two instances nonvaccinated members of their families developed a typical discrete smallpox, which raised the question of the so-called vaccinia being the source of contagion. Is the first proposition correct? Please omit my name.

M.D., Iowa.

ANSWER.—If smallpox infection takes place shortly before vaccination, both smallpox and vaccinia may develop. The time relationship between the two infections may be such that the infection with the smallpox virus, so to speak, is not overtaken by the immune reaction produced by vaccination. In the cases cited, the smallpox in the nonvaccinated members of the families in question resulted from smallpox contagion and not from vaccinia. The patients with vaccinia and smallpox should have been quarantined like any other smallpox patient.

L'OREAL HENNÉ

To the Editor:—Does L'Oreal Henné contain any injurious ingredients? This request has come from a patient of mine who read the extremely illuminating article on hair dyes in *Hygeia* for May, 1926.

M.D., New York.

ANSWER.—A package of L'Oreal Henné (F. L. Lebeau, Inc., New York City) was submitted to the A. M. A. Chemical Laboratory in June, 1925. The chemists reported that the preparation consists of two packages, one containing a white powder and the other a yellow substance. The white powder responded to tests for sodium perborate; the yellow substance was apparently composed of iron and copper salts, with pyrogallol and vegetable matter.

TREATMENT OF MALARIA

To the Editor:—Please inform me as to the latest method of treating estivo-autumnal malaria, which has persisted in this particular patient for a period of five years, during which time she has been treated extensively with quinine. In the last two years she has developed an idiosyncrasy to this drug, and it is impossible to use it further in amounts sufficient even to control her symptoms of malaria. Is arsphenamine or neoarsphenamine indicated for this type of infection? Can this disease be transmitted to a fetus in utero and, if so, what treatment should be instituted both before and after birth?

JOHN R. BRAYTON, M.D., Indianapolis.

ANSWER.—The arsphenamines are useful only in the tertian form of malaria. Probably the best succedaneum for quinine in estivo-autumnal malaria, though far inferior to it, is methylene blue, in doses of from 0.1 to 0.2 Gm. every three hours, a total of from 0.5 to 1 Gm. daily.

That malaria may be transmitted to the fetus in utero is shown by a case in Colorado reported by Forbes (*Am. J. Dis. Child.* **25**:130 [Feb.] 1923), in which anopheles transmission could be positively excluded. In this case, the babe, aged 10 weeks, was given quinine hydrochloride, 0.12 Gm., every four hours for four days, then three times daily for four days, and then three times on each of two days of each week for two months, with a perfectly satisfactory result.

ROENTGEN-RAY THERAPY

To the Editor:—With a 7 inch spark gap, 5 milliamperes, what time would produce an erythema of skin at a 20 inch distance; also at 10 inch distance? With 1 mm. of aluminum as filter?

T. A. MCAMIS, M.D., Lawrenceburg, Tenn.

ANSWER.—Under the conditions mentioned in the first part of the query, with a standardized apparatus, the time required will be approximately five minutes. With a 10 inch target distance it will be about one minute and fifteen seconds.

ANALGESICS — PHENOL ABSORPTION — WITHDRAWAL SYMPTOMS OF DRUG ADDICTION

To the Editor:—1. Please name some pain killers besides morphine (I mean good ones used in neuritis or severe pains). Give dosages. 2. Is phenol absorbed by an unbroken skin? 3. How does a morphine fiend act when he is deprived of the drug? Does he have pain or pains? How can it be differentiated from hysteria? Do not use name.

M.D., Pennsylvania.

ANSWER.—1. Amidopyrine is probably one of the most efficient representatives of the group of coal tar analgesics. It has been stated that the addition of a general nerve sedative like phenobarbital in proportion of perhaps 1:10 of amidopyrine increases the analgesic power of the latter. Extract of hyoscyamus in 0.01 to 0.02 Gm. doses also has analgesic potency, most especially in colics.

2. Phenol (carbolic acid) is absorbed by the unbroken skin, but hardly ever to a sufficient extent to produce any injury unless the application is very extensive. Phenol solution applied on a finger under an occlusive dressing is capable of penetrating to such a degree as to produce necrosis.

3. The withdrawal symptoms in morphinism are as variable as those of hysteria. The patient suffers from absolute insomnia, nervous irritability and excitement, almost delirium, which may be succeeded by depression simulating melancholia. He may show muscular tremor, his heart action may become feeble and irregular, and he may even go into collapse. There is great impairment of digestion, with loss of appetite, nausea, even vomiting, constipation or diarrhea. Such a patient may have pain either from the original ailment that caused the use of the morphine or from impairment of various functions produced by morphine; or he may simulate pain in order to obtain the morphine he craves. It may be noted that while the hysterical patient usually craves sympathy and revels in medical attention, the morphine addict is prone to ridicule the idea of consulting a physician and may stoutly assert that there is nothing wrong with him. He may resist examination, most especially exposure of the part of the body that bears the telltale marks of the frequent use of the hypodermic syringe. The supreme and pathognomonic test is absolute and complete seclusion of the patient in charge of a trained attendant so as to make it impossible to secure morphine. Then, within a short time, the patient will confess the truth and beg for morphine.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 13-16. Sec., Dr. S. W. Welch, Montgomery.

CALIFORNIA: San Francisco, July 12-15. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

CONNECTICUT: Hartford, Reg. Bd., July 13-14. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford. Homeo. Bd., New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DISTRICT OF COLUMBIA: Washington, July 13. Sec., Dr. Edgar P. Copeland, Suite 110, 1801 Eye St., N. W., Washington.

HAWAII: Honolulu, July 12-15. Sec. Dr. A. L. Davis, 1254 Emma Street, Honolulu.

INDIANA: Indianapolis, July 13-15. Sec., Dr. Wm. T. Gott, 421 State House, Indianapolis.

MASSACHUSETTS: Boston, July 13-15. Sec., Dr. Frank M. Vaughan, Room 144, State House, Boston.

SOUTH DAKOTA: Custer, July 20. Director, Med. Lic., Dr. H. R. Kenaston, Bonesteel.

Colorado April Examination

Dr. David A. Strickler, secretary of the Colorado Board of Medical Examiners, reports the written examination held at Denver, April 6, 1926. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 15 candidates who took the physicians and surgeons' examination, 6 passed and 9, including 2 osteopaths, failed. Eleven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Chicago Medical School		(1924)	80.4
Kansas City College of Medicine and Surgery		(1924)	75
St. Louis College of Phys. and Surgs.		(1923) 76.2, (1925)	82.1
University of West. Tennessee Coll. of Med. and Surg.		(1921)	76.1
Laval University Faculty of Medicine		(1919)	86.3

College	FAILED	Year Grad.	Per Cent
St. Louis College of Physicians and Surgeons		(1920) (1923) 64.4, 64.6, (1924) 59.8, (1925) 54.6	57.1
Medico-Chirurgical University of Lund, Sweden		(1883)*	2.1
University of Kharkov, Russia		(1916)*	65.6
Osteopaths		50.8,	56.7

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University School of Medicine		(1925)	Georgia
Northwestern University Medical School		(1923)	Missouri
Rush Medical College		(1924)	Illinois
Indiana University School of Medicine		(1924)	Indiana
University of Maryland School of Medicine (1917) Maryland		(1912)	Dist. Colum.
Creighton University Medical College		(1924, 2)	Nebraska
Long Island College Hospital		(1913)	New York
Temple University Department of Medicine		(1922)	Maryland
German University of Prague		(1921)*	New York

* Verification of graduation in process.

Oklahoma March Examination

Dr. J. M. Byrum, secretary of the Oklahoma Board of Medical Examiners, reports the written examination held at Oklahoma City, March 9-10, 1926. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Three candidates were examined, all of whom passed. Three candidates, including 1 undergraduate, were licensed by reregistration and 12 by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Northwestern University Medical School		(1925)	91
University of Maryland School of Medicine		(1925)	89
University of Oklahoma School of Medicine		(1925)	89

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas Medical Department		(1918)	Arkansas
Rush Medical College		(1889)	Iowa
University of Illinois College of Medicine		(1924)	Illinois
University of Kansas School of Medicine		(1915)	Kansas
Kentucky School of Medicine		(1890)	Texas
University of Nebraska College of Medicine		(1919)	Nebraska
University of Oklahoma School of Medicine		(1924)	Texas
University of Nashville Medical Department		(1892)	Texas
University of the South Medical Department		(1901)	Mississippi
Vanderbilt University School of Medicine		(1924)	Tennessee
Medical Department, Texas Christian University		(1911)	Texas
University of Texas Department of Medicine		(1910)	Texas

Book Notices

A HANDBOOK FOR SENIOR NURSES AND MIDWIVES. By J. K. Watson, M.D., Capt., R. A. M. C. Cloth. Price, $4. Pp. 554, with 178 illustrations. New York: Oxford University Press, 1926.

This voluminous, closely printed book is a supplement to the author's "Handbook for Nurses" and his "Handbook of Midwifery." It is largely a compendium of the experience of others, and the great majority of the 178 illustrations are borrowed from the writings of others. The book is divided into four sections; namely, medicine, surgery, pediatrics, and obstetrics and gynecology. However, these divisions are unequal, as evidenced by the fact that only seventy pages are devoted to medicine, 120 pages to pediatrics, ninety-three pages to obstetrics and gynecology, and 252 pages to surgery. Furthermore, the section on medicine is limited to prevention of disease, cancer, alcohol, ductless glands, constipation and intestinal toxemia, diabetes mellitus, smallpox and vaccination, epidemic encephalitis and intracranial tumors. The common diseases are not considered. The author uses the terms "tubercular" and "tuberculous" interchangeably, though the adjective usually required was "tuberculous." Another misuse of terminology is the expression "chronic endometritis" which the author considers in its obsolete sense. Pathologists now agree that chronic endometritis is seldom found except in association with retained secundines, cancer of the uterus or tuberculosis of the uterus. For anesthesia in obstetrics, chloroform is the author's choice, and for analgesia, morphine and scopolamine seem to find favor. In the illustrations of internal version borrowed from Nagel, the vulvar hairs are neither clipped nor shaved, the operator's hands are ungloved, and there is an utter disregard for aseptic precautions. These details are important, especially for teaching purposes. Three of the four version illustrations show the patient lying on her side. In this country delivery is practically always accomplished with the patient in the dorsal position. This book undoubtedly contains a wealth of useful information and is well written; but it is more valuable for students and practitioners than for nurses. It is too elaborate for nurses, even for senior nurses. The section for midwives is much more practical.

DER KOKAINISMUS. Geschichte, Pathologie, medizinische und behördliche Bekämpfung. Von Prof. Dr. Hans W. Maier, I. Oberarzt der psychiatrischen Universitätsklinik, Burghölzli-Zürich. Paper. Price, 15 marks. Pp. 269, with 22 illustrations. Leipsic: Georg Thieme, 1926.

This is essentially a treatise on the psychiatry of cocainism. The author discusses in considerable detail the various types of hallucinations, special symptoms, differential diagnosis, prognosis, therapeutics and governmental control. The hallucinations of cocainism are frequently of such a type as to lead to acts of violence: robbery, sexual crimes and, less frequently, homicide. Abstinence symptoms are not at all serious so far as the health of the cocainist is concerned, but the mental state is such that cures are difficult to obtain, usually requiring prolonged incarceration. The combination of morphinism with cocainism appears to be still more serious in that the mental decadence occurs more quickly, leading within a few months to delirium requiring hospitalization. The volume contains a rather more exhaustive study of the psychosis than the monograph by Joel and Frankel. It appears to be sound and well worth the time of those interested in this field.

HYSTERIA. By Ernst Kretschmer, M.D., A.O., Professor of Neurology and Psychiatry in Tübingen. Translated by Oswald H. Boltz, M.D., Senior Assistant Physician in the Manhattan State Hospital in New York City. Nervous and Mental Disease Monograph Series, No. 44. Pp. 120. New York: Nervous & Mental Disease Publishing Company, 1926.

This monograph is not a clinical treatise on the symptoms and diagnosis of hysteria but a study of the dynamics of the hysterical reaction from a psychologic and neurophysiologic aspect. The author attempts, with admirable lucidity and simplicity, not merely to interpret the symbolism of the symptoms but rather to establish how they come about; to show how a tremor, an anesthesia or a paralyzed limb can arise and be maintained on the basis of some emotional conflict.

The material studied is chiefly that of the war hysterias, but the arguments adduced serve equally for those of civil life. The explanations offered are based on a study of reflexes, their conditioning and the influence on them of conscious or volitional innervation. The hysterical reactions are more primitive, or "childish," than those of conscious selection, and are "release" manifestations brought about by paralysis of higher mechanisms through the shock of emotional experience; they become fixed as habits or conditioned reflexes, and consequently become progressively more automatic and involuntary. The book is thoroughly worth while, the arguments are well documented and illustrated, and the method of study will do much to bring about the reunion of psychodynamics and nervous physiology in harmony with the "evolution and dissolution" principles of Hughlings Jackson. The translation is somewhat literal in places, the translator rightly adhering to the need to retain the exact meaning of the author; but it is readable and can safely be recommended to any student of neurology.

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S. Third edition. Reedited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia. Assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume II. Diseases of Doubtful Etiology; Diseases Caused by Protozoa, Spirochetes and Animal Parasites; Diseases Due to Physical, Chemical and Organic Agents; Deficiency Diseases. Cloth. Price, $9. Pp. 891, with illustrations. Volume III. Diseases of Metabolism—Diseases of the Digestive System. Cloth. Price, $9. Pp. 1052, with illustrations. Philadelphia: Lea & Febiger, 1926.

The third edition of a work as important as this scarcely needs a reviewer's estimate. Volume II is in seven parts, as follows: (1) diseases of doubtful or unknown etiology, including such affections as smallpox, measles, dengue and rheumatic fever; (2) protozoan infections; (3) spirochetal infections; (4) diseases caused by animal parasites; (5) diseases due to physical agents; (6) diseases due to chemical and organic agents, and (7) deficiency diseases. In this volume, it is interesting that chapter XV, on syphilis, still bears the authorship of Osler, although it has been considerably revised by other eminent men. Parts 5 and 6, covering diseases caused by physical and by chemical or organic agents, respectively, are in large part contributions to the increasingly important field of industrial medicine. Volume III has but two parts; namely, diseases of metabolism and diseases of the digestive system. In planning a large work of this character, the separation of diseases of metabolism from diseases of the endocrines and the deficiency diseases cannot be a simple task. In this instance, the diseases of metabolism comprise only four chapters, respectively on metabolism from the point of view of the practitioner, on diabetes, on gout and on obesity. The contributors to these volumes are well known authors from both England and North America, and their various articles are marked by thoroughness rather than by brevity, in accordance with the purpose of the work as a whole. Volume I was reviewed last week.

EXPERIMENTAL INVESTIGATIONS INTO THE EMOTIONAL LIFE OF THE CHILD COMPARED WITH THAT OF THE ADULT. By Helga Eng. Translated by George H. Morrison, M.B. Cloth. Price, $6.50. Pp. 243, with illustrations. New York: Oxford University Press, 1925.

The author has utilized the laboratory method to study the emotional life of the child between the ages of 7 and 14. Thus, curves made with all the technic of modern scientific physiology indicate that the thought of castor oil is sufficient to produce displeasure and a fall in the pulse height and blood pressure. A study of the intellectual emotions indicates that children take most pleasure in history among their school interests after manual training, and that they vary in their response to music. The author is inclined to classify all emotions into four types—pleasure and displeasure, tension and excitement. Pleasure is accompanied by more rapid breathing; displeasure, by retarded respiration. Tension brings about slower breathing, while excitement is accompanied by a more rapid pulse, more rapid breathing, and an increase in arm volume and pulse rate. The author found nothing in her experiments to indicate a state of relaxation in the child.

MEISTER DER HEILKUNDE. Herausgegeben von Prof. Dr. Max Neuburger. Band 7. Max Pettenkofer. Von Dr. Otto Neustätter, Ehemaliger Direktor des Historisch-Ethnologischen Hygiene-Museums in Dresden. Boards. Price, 3.60 goldmarks. Pp. 93, with 1 illustration. Vienna: Julius Springer, 1925.

This is another contribution to a series of brief biographies of German masters of medicine, the previous numbers including lives of Virchow, Ehrlich, DuBois-Reymond, Billroth, Koch and Skoda. The biography of Pettenkofer represents a life large in contribution to medicine and to letters, beginning with a sonnet written in 1844 on modern chemistry, and following with numerous works in chemistry, physiology, hygiene and epidemiology. As early as 1865, Pettenkofer began contributing essays for the instruction of the public in hygiene, and continued this interesting aspect of his work until the end. It is well for the students of the present to have recorded the inspiring lives of the great scientists of the past.

AN INTRODUCTION TO THE STUDY OF X-RAYS AND RADIUM. By Hector A. Colwell, M.B., D.P.H., Director of the Radiological Department, King's College Hospital, and Cecil P. G. Wakeley, F.R.C.S., F.R.S., Assistant Surgeon, King's College Hospital. Cloth. Price, $3.35. Pp. 203, with 37 illustrations. New York: Oxford University Press, 1926.

The authors have attempted to supply an elementary textbook on roentgenology and radioactivity, and have succeeded in presenting much established knowledge and maintaining due conservatism as to therapeutic possibilities. All the apparatus used in this work is illustrated and described. A special department discusses units of measurement and official reports on plans for the protection of patient and operator. The book is a useful work, particularly for the beginner in this field.

DAS SPUTUM. Von Professor Dr. Heinrich von Hoesslin. Second edition. Paper. Price, 66 marks. Pp. 485, with 130 illustrations. Berlin: Julius Springer, 1926.

The first edition of this book appeared in 1920. The new edition is enlarged and revised, especially in the part on bacteriology of the sputum. The book gives a thorough consideration of the sputum from all points of view and may be accepted as a reliable source of information in its chosen field. The bibliography, which occupies no less than fifty pages, seems to cover the field of the sputum quite completely.

CORRECTING SPEECH DEFECTS AND FOREIGN ACCENT. By Grace A. McCullough, Supervisor of Speech Improvement in the New York City Schools, and Agnes V. Birmingham, in charge of Speech Improvement in the New York City Schools. Cloth. Price, 88 cents. Pp. 232, with illustrations. New York: Charles Scribner's Sons, 1925.

The authors are teachers in the speech improvement department of the New York schools. Their work is therefore not encumbered by theoretical conceptions. Numerous practice sentences and poems are provided for the use of teachers in other institutions. Here are all the trick tongue twisters that have given amusement and exercise to the lingual appendages since men first learned the value of such performances.

LA SALPÊTRIÈRE. Par Georges Guillain et P. Mathieu. Paper. Price, 100 francs. Pp. 88, with illustrations. Paris: Masson et Cie, 1925.

In recognition of the centenary of the birth of the great Charcot, the French publishers have prepared a history of the famous Salpêtrière, which has had an important place in French medical annals since the sixteenth century. The work is beautifully illustrated with photogravures of the institution and the notable scientists associated with it. A charming contribution on the whole to medical history and that of the hospital!

PRESCRIPTION NOTES. By Arthur L. Tatum. Leather. Price, $1.25. Pp. 22. Chicago: University of Chicago Press, 1925.

Medical students appreciate outlines of prescription writing with simple rules and a pocket-size book in which to record the favorite compounds of favorite instructors. These are supplied in the manual by Dr. Tatum. He limits himself wholly to the metric method, which is excellent, but which physicians, particularly instructors in clinical departments, persist in avoiding.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

A HEALTH EDUCATION PROCEDURE: For the Grades and Grade Teachers. By Kathleen Wilkinson Wootten (Mrs. Henry Stewart Wootten), Professor of Health, Georgia State College for Women, Milledgeville, Ga. Cloth. Pp. 420, with illustrations. New York: National Tuberculosis Association, 1926.

An outline for health education in schools, based on experience and study.

PEDIATRICS. By Various Authors. Edited by Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago. Volume VIII and Index Volume. Cloth. Price, $10. Index volume gratis. Pp. 1102, with 388 illustrations. Philadelphia: W. B. Saunders Company, 1926.

Concluding volume and index of this great system of pediatrics.

PARENTHOOD AND THE NEWER PSYCHOLOGY: Being the Application of Old Principles in a New Guise to the Problems of Parents with Their Children. By Frank Howard Richardson, A.B., M.D. Cloth. Price, $1.75. Pp. 200. New York: G. P. Putnam's Sons, 1926.

A pediatrician's conception of child training—interesting if not altogether orthodox.

THE HYGIENE OF THE HOME, AND RESPONSIBILITY FOR SEX EDUCATION. By John J. Mullowney, President of Meharry Medical College. Cloth. Price, $2 net. Pp. 195. Boston: The Christopher Publishing House, 1926.

A handbook of common sense advice rather uninspiring in its presentation.

HERZKRANKHEITEN BEI FRAUEN. Von Prof. Dr. N. Jagić. Paper. Price, 3.60 marks. Pp. 103. Berlin: Urban & Schwarzenberg, 1926.

Brief monograph on technic of study, diagnosis and therapeutics of heart disease in women.

NEUE KLINISCHE GESICHTSPUNKTE ZUR LEHRE VOM ASTHMA CARDIALE. Von Dr. Sigmund Wassermann. Paper. Price, 9.60 marks. Pp. 168, with 12 illustrations. Berlin: Urban & Schwarzenberg, 1926.

Concerning coronary thrombosis and aortic valve stenosis particularly.

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. Herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes der Universität Halle a. d. Saale. Lieferung 195. Abt. V, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 3B, Heft 3—Methoden zum Nachweis des Adrenalins. Von Ernst Gellhorn. Methoden zum Nachweis der Wirkung von Schilddrüsenstoffen. Von Isaac Abelin. Die Auswertung der Hypophysenhinterlappenauszüge am augeschnittenen Uterus. Von Paul Trendelenburg. Spezielle operative Methoden zur Untersuchung der inneren Sekretion der Geschlechtsdrüsen bei Wirbeltieren. Von Alexander Lipschütz. Paper. Price, 11.10 marks. Pp. 285-496, with 76 illustrations. Berlin: Urban & Schwarzenberg, 1926.

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. Herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes der Universität Halle a. d. Saale. Lieferung 193. Abt. V, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 1, Heft 3—Temperaturmessung mit Thermoelementen. Von Ernst B. H. Waser. Verfahren zur künstlichen Unterhaltung der Atmung. Von Walter Sulze. Die künstliche Durchströmung der Milz. Von Emil v. Skramlik. Paper. Price, 3.90 marks. Pp. 433-512, with 31 illustrations. Berlin: Urban & Schwarzenberg, 1926.

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. Herausgegeben von Geh.-Rat Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes der Universität Halle a. d. Saale. Lieferung 190. Abt. VIII, Methoden der experimentellen morphologischen Forschung, Teil 2, Heft 1—Methodik der experimentellen Erzeugung aseptischer und bakterieller Entzündungen. Von Georg Rosenow. Die experimentelle Trypanosomenforschung mit Berücksichtigung der chemotherapeutischen Versuchstechnik. Von Martin Mayer. Paper. Price, 5.40 marks. Pp. 114, with 14 illustrations. Berlin: Urban & Schwarzenberg, 1926.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION. Edited by Mrs. M. H. Mellish, H. Burton Logie, M.D., and Charlotte E. Eigen Mann, B.A. Volume XVII, 1925. Cloth. Price, $13 net. Pp. 1078, with 252 illustrations. Philadelphia: W. B. Saunders Company, 1926.

ACIDOSIS. By Paulina Beregoff, Directora del Laboratorio de Bacteriologia y Parasitologia de la Facultad de Medicina, Universidad de Cartagena. Paper. Pp. 87, with illustrations. Cartagena, 1925.

Medicolegal

Notices Posted in Hospital Limiting Its Liability

(McBride v. Clara Barton Hospital (Calif.), 241 Pac. R. 941)

The District Court of Appeal of California, First District, division 2, in affirming a judgment in favor of the plaintiff for damages for burns on one of his legs while he was a patient in the hospital operated by the defendant corporation, says that the jury brought in a verdict for $5,000, but the plaintiff consented to waive $2,000 of the verdict. He was a child who had been taken to the hospital to have a tonsillotomy performed. His mother stated at the hospital that she wanted a special nurse detailed. A nurse in hospital uniform made the bed and put in a hot water bottle, and, according to the evidence, another nurse put the boy in bed, and afterward there was a special nurse for him—one procured by the defendant, but for whom it denied any responsibility. However, the court thinks that it was quite clear, in its view of the evidence, that there was no error committed in giving an instruction taking from the jury all issues excepting the amount of the damages. There was no legal evidence before the trial court that the first nurse mentioned, or the one mentioned as having put the boy in contact with the hot water bottles, or the special nurse, was not, each of them, the agent of the defendant. The law imposed on the defendant the burden of introducing evidence to show that said individuals, and especially the last two mentioned, were not its agents, and that the defendant was not guilty of negligence. It wholly failed to sustain that burden.

There was evidence that the defendant had posted in different places in its premises certain notices limiting its liability. There was no evidence that the plaintiff or his parents saw or read the notices or entered into any contract limiting the liability of the defendant. The defendant did not call to the attention of this court any statute that authorizes a hospital to limit its liability by posting notices. The trial court did not err in refusing to admit the contents of the notices in evidence. Another ruling was clearly correct, which sustained an objection to the attempt of the defendant to introduce in evidence what it claimed to be the custom obtaining in the city in regard to hospitals employing special nurses called in from the outside, controlling and supervising such nurses, and collecting for and paying to such nurses their compensation.

Hearing denied by the Supreme Court of California.

Opinions of Laymen Versus Those of Alienists

(Benson v. Burdick, Superintendent, etc. (N. Y.), 213 N. Y. Supp. 220)

The Supreme Court of New York, Appellate Division, Third Department, says that in this habeas corpus proceeding to inquire whether or not relator Benson was legally detained in the Dannemora State Hospital for Insane Criminals, the jury had examined him; they had observed him and heard him answer questions during a lengthy examination and cross-examination. They had expressed their opinion that he was sane, and this opinion the county judge had approved. No physician or alienist gave testimony on his behalf. On the other hand, two qualified alienists and two physicians of some experience had examined and observed him, and each had expressed the opinion that he was insane. There was also the "case book" of the relator, kept in the hospital, which was used at the trial, and which was a part of the record. In but one entry in the record was there any conflict with the oral testimony of the alienists; it occurred in the report of two physicians in 1919, who, while finding the relator insane, expressed the opinion that he was not then likely to do injury to himself or to others. Otherwise the entries in this book uniformly supported the oral testimony, given at this trial, that he was subject to delusions, entertained ideas of persecution without any foundation therefor, thought every one against him, and that some were plotting against him; that

he was quite uniformly depressed, became quickly excited during conversations, when his supposed wrongs were mentioned, and "had many ideas of a paranoid nature." At the same time, usually he was quiet, got along without trouble, and conversed rationally. Since he had been in the hospital, two county judges and four justices of the supreme court had pronounced him insane. Should, then, the opinions of laymen, based on a few hours' observation, be permitted in court to overcome the unanimous opinion of alienists who had observed the relator for years and gave grounds on which they based their opinions; also to overcome the opinions of competent physicians, as well as the evidence in the hospital records of his case? Having in mind the definition of paranoia, this court realizes that his appearance before the county court and jury may have disclosed no evidence of a disturbed mental condition, and yet he may have been at the time a paranoiac, while, unless this court disregarded entirely the testimony of the alienists and physicians and his hospital record, this court would have to find that he was a paranoiac. In other words, in this court's view, there was little, if any, conflict in the evidence; all that the county court and jury saw and heard could exist, and yet the medical testimony be entirely true, and the medical opinions fully justified and undisputed. The order of the county court discharging the relator from the custody of the superintendent of the hospital should be reversed, and the relator committed to the hospital, a state institution for the custody of the insane. This court disapproves of the finding that he was sane or had recovered his sanity.

Measure of Damages for Giving Up of Practice

(O'Brien v. O'Brien (Calif.), 241 Pac. R. 861)

The Supreme Court of California, in affirming a judgment for the plaintiff, says that she brought this action to quiet her title to a parcel of land. The answer of the defendant stated, among other things, that, in March, 1914, the plaintiff and the defendant were married; that for more than twenty years prior thereto he had been a duly licensed practitioner of medicine and surgery and had for several years prior to 1914 received from his practice from $7,000 to $12,000 net a year; that the plaintiff was possessed of property of the value of about $250,000; that it was agreed that on their marriage the defendant should discontinue his practice of medicine and should aid the plaintiff in the care of her property, which should support them both; that the plaintiff should make certain provisions for the defendant by her will; and that after their marriage she made a will by the terms of which she devised the property described in the complaint to the defendant. The parties separated in 1916.

The court assumes that under the circumstances alleged sufficient part performance to take the contract out of the statute of frauds was shown. The mere promise of the plaintiff to reduce the contract to writing and her failure or refusal to do so did not constitute fraud. That the subject matter of the alleged contract was lawful was not questioned. That the contract was unique must be admitted. What may be assumed to have been the defendant's proposal of marriage was conditioned on the promise on the part of his prospective wife that she would make it possible for him to receive more than two thirds of her $250,000 estate and in the meantime he would husband her resources, so to speak. Without such promise on her part he would not have married her. But the parties had the right to make that sort of contract, and it is assumed that the plaintiff had the right to bargain away her power to revoke said will. What, then, would be the nature of the relief to which the defendant might be entitled?

In the situation of the parties a remedy by way of specific performance was not available to the defendant, for the reason that such a remedy would not be mutual, in that the defendant could not be compelled specifically to perform his part of the contract; namely, to assist in the care and management of the plaintiff's property, a purely personal service. If this were an action by the defendant as the survivor against the representatives of his deceased wife's estate, the measure of damages would probably be the value of the property agreed to be devised or bequeathed. But the court was here dealing with a controversy inter vivos, or between living persons. The defendant might not survive the plaintiff. If he did not, he conceded that all his rights would expire with him. He was therefore confined to the relief which the court might impose on the plaintiff by requiring her to compensate him for whatever damages he had suffered by reason of his change of position to his detriment in giving up his medical practice in the county where it had been and establishing his practice elsewhere. The loss which he claimed to have so suffered was such damage as the law might reasonably fix and determine. The fixation of damages in tort actions accruing to a professional man by reason of the interruption of his business is too common to require reference. The value of the business before and after such interruption is necessarily taken into consideration in fixing the damage. The measure of the defendant's damage therefore was an amount which would compensate him for the detriment he had suffered on account of his change of position. However, in order that the amount thereof might be properly ascertainable, it was necessary for the defendant to allege facts from which, when proved, the court might properly fix the amount. But he failed or refused to allege his age, so that the court might properly receive proof of his expectancy. He failed utterly to advise the court or the adverse party as to his revenues from his present practice, which practice it might reasonably be inferred had been carried on for many years. Conclusions only and not facts were alleged. This court is satisfied from an examination of the pleadings that the plaintiff was entitled to allegations of fact which would advise her and the court of something more than mere opinion on matters so vital to the defendant's cause and his alleged loss of business. He presented six different pleadings to the court wherein objections were successfully made to their sufficiency, and on his failure to request leave to amend further the court was justified in rendering judgment against him.

Valid Rules to Protect Health of School Children

(Stone v. Probst et al. (Minn.), 206 N. W. R. 642)

The Supreme Court of Minnesota says that the home rule charter of the city of Minneapolis provides that the board of education of the city shall have entire control and management of the common schools within the city, and make rules and regulations for the government of the schools. Pursuant to the authority indicated, the board provided that principals and teachers must be on the alert to discover suspected contagious diseases, filth or vermin, and physical and mental defects. Against conscientious objection, medical examination will not be made; but, where such examination is necessary for the protection of the health of other children, a child is excluded until it presents the same evidence that is required of other children who are excluded because of infectious disease.

The plaintiff's daughter, aged 6 years, became ill with a throat infection, by reason of which she was troubled with hoarseness. Her exclusion from school followed. She was entitled to return on the school authorities being furnished with a negative report on a throat culture submitted to the division of public health of the city, and, in addition to that, the presentation of a certificate from a physician as to the condition of her throat, or submission to a physical examination by the regularly employed school physicians or nurses. Refusal of compliance was based on conscientious objections incident to being a Christian scientist. The plaintiff procured an alternative writ of mandamus requiring the respondent, who was the principal of the school which the pupil attended, to readmit her or show cause why she should not be received. The answer pleaded the rules and the condition of the pupil. The trial court quashed the writ and dismissed the action, after which it denied the plaintiff's motion for amended findings or a new trial, its order in respect to which denial is affirmed.

It must be conceded by all that one of the primary duties of the board of education is to protect the health of the many children in its charge. Persons differ only as to how this is

to be accomplished. Efforts for prevention do much to avoid an epidemic. The demand on the board for vigilance in this respect is imperative. All authority exercised in the protection of the public health is to be liberally construed. This (supreme) court holds that the language of the charter by fair implication confers on the board of education the power to make and enforce the rules involved. In fact, it could not effectually carry out the purposes for which it exists without such power. This court does not agree with the contention that the school board by its rules had assumed to enact a law and that it was without legislative authority. Of course the legislative body cannot be permitted to relieve itself of this power by delegating it to another body. But the constitutional inhibition cannot be extended so as to prevent the grant of legislative authority to administrative boards to adopt rules to carry out a particular purpose. These rules come within this class and are administrative provisions. They are also the result of the valid exercise of the police power invested in the board of education by virtue of the language of the charter. Nor does it follow that, because the people through their charter have delegated the matter of health to the board of public health, the board of education is denied the exercise of the same powers to such an extent as may reasonably be necessary to carry out the purposes for which it was created. Neither are the rules of the board of education invalid because inapplicable to children in parochial schools, such rules being for the protection of pupils in the public schools. The other children are subject to public health regulations made by the proper body. Furthermore, the fact that the notice of exclusion mentioned the wrong source of authority was not important.

This court concludes that the rules were made in good faith and were not unfair, arbitrary or unreasonable, and hence could not be disturbed by the courts. It was urged that the statutes tend to show the rules in reason should be more considerate and be operative only in case of an epidemic, and then only for a reasonable time; but it seems more reasonable to the court to have the rules applicable in preventing as well as in controlling an epidemic. The court should not attempt to substitute its judgment as to what the rules should be, when operative, or the period of operation. The board provides a way for the child to qualify for admission without any expense. The matter is entirely in his own hands. That attendance at school is compulsory was mentioned, but not commented on.

Injury to Workman from Fall Caused by Epilepsy

(Marion Machine Foundry & Supply Co. et al. v. Redd et al. (Okla.), 241 Pac. R. 175)

The Supreme Court of Oklahoma says that under the workmen's compensation law of that state compensable injuries are restricted by the provision that "'injury or personal injury' means only accidental injuries arising out of and in the course of employment and such disease or infection as may naturally and unavoidably result therefrom." The claimant in this case was at work with a pick digging out a concrete foundation of some character. Something like 10 feet from where he was engaged in work there was a gas flame burning for his comfort and that of other workmen. Being seized with an epileptic fit, to which he was subject, he fell in such a way that his hand was burned by the flame before he could be removed by other workmen. That the accident was one arising in the course of the employment there could be no doubt. Could it be said that the injury had its origin in a risk connected with the employment and flowed from that source as a rational consequence? Was there any causal connection between the conditions under which the work was required to be performed and the resulting injury? The particular work was not hazardous. But for the epileptic seizure there would have been no injury. This court thinks that the injury was not one arising out of the employment. In short, the court holds that where the injury suffered is the result of a fall caused by an attack of epilepsy, such injury is not one arising out of the employment, and it is not compensable under the workmen's compensation law.

Society Proceedings

COMING MEETINGS

Associated Anesthetists of the United States and Canada, Nottingham, England, July 20-23. Dr. F. H. McMechan, Avon Lake, Ohio, Sec'y.

Idaho State Medical Association, Sandpoint, Sept. 2-5. Dr. J. N. Davis, Kimberly, Secretary.

Montana, Medical Association of, Billings, July 16-17. Dr. E. G. Balsam, 222 Hart-Albin Building, Billings, Secretary.

Wyoming State Medical Society, Lander, July 12-13. Dr. Earl Whedon, Sheridan, Secretary.

MEDICAL ASSOCIATION OF GEORGIA

Seventy-Seventh Annual Meeting, held at Albany, Ga., May 12-14, 1926

The President, DR. FRANK K. BOLAND, Atlanta, Ga., in the Chair

Conjunctivitis Tularensis

DR. SACH W. JACKSON, Atlanta: This is the second case observed in Georgia, although the original source of infection was in Tennessee. A lad, aged 18, went rabbit hunting, killing several rabbits, which he cleaned. Soon afterward his left eye became inflamed. The eye presented the picture of an acute purulent conjunctivitis. The usual treatment failed to give relief. Smears and cultures were negative. Blood examination gave a positive agglutination for *Bacterium tularense*. A Wassermann test from the same specimen of blood was negative. The case was especially interesting because of the absence of constitutional manifestations. They have always been present in the fourteen other eye cases of this sort now on record. The last treatment given was a 1 per cent solution of mercurochrome-220 soluble to be instilled into the eye several times daily. The conjunctival infection gradually subsided.

Deafness

DR. DUNBAR ROY, Atlanta: If any criticism is due the practice of medicine today it is engendered by the fact that it has become too scientific and too much built on laboratory results. In this age of microscopes and laboratory technic, the medical profession is too prone to lose sight of the psychology of the personal equation, thereby failing to obtain results either satisfactory to itself or to its patients. The study of deafness requires the most minute thoroughness. The idea of superficial examination when a case of deafness presents itself is an injustice to the patient as well as to the otologist. Proper examination and tests with a thorough inquiry into every phase of the patient's personal and family history is just as important as it is for any other obscure physical ailment. A complete record should be kept of every such patient, and periodic examinations as to the improvement in hearing should always be made, as only in this manner can the progress of the case be determined. Deaf persons lend themselves too frequently to the wiles of the charlatan and the quack, and if the otologist does not offer something definite to those unfortunates they will find themselves the prey of the unscrupulous so-called specialists.

Gallbladder Surgery with Reference to the Unrelieved Case

DR. R. M. HARBIN, Rome: The liver, being the great incinerator, is liable to overtax, and in the presence of age, dietetic affronts and foci of infection, ill defined symptoms of long standing probably have their origin in unrecognized and transient forms of cholecystitis, pericholangitis and hepatitis. The liver, pancreas and gallbladder belong to a physiologic system in which certain infective processes are reciprocal in character, the symptoms of one becoming more or less common to all. When the gallbladder loses its function as a shock absorber for back pressure in the bile ducts, infective processes become accelerated. Dysfunction of the liver is a predisposing factor that favors the development not only of contiguous disease but also of certain general abnormal conditions, especially in the aged. Early removal of the gallbladder offers a cure only when it has been the major

primary link in the chain of pathologic conditions. In addition to the selection of a proper type of operation, we must look to preoperative and postoperative intelligent medical care for a reduction of the percentages of unrelieved cases. Postoperative medical treatment should eliminate diets rich in fats and lipoids, and the problem of obesity is closely allied to that of gallbladder disease. The crux of the whole question of gallbladder surgery is not so much the type of operation as the menace of unnecessary operation, on the one hand, and the late surgical procedure for disease that has extended beyond reach of surgery, on the other hand. The so-called symptoms of gallbladder colic may recur after a cholecystectomy. Indications for operation are, for early severe attacks, signs of rupture, peritonitis, empyema, jaundice after eight days, and protracted cases after medical treatment has been given a fair trial. Contraindications obtain when prolonged medical treatment may offer recovery or latency of symptoms when patients elect certain hazards, old age, obesity, cardiorenal disease, diabetes, chronic hepatitis, or pancreatitis. Clinical cures may be followed after two or three years by recurrence of symptoms and, on the other hand, unrelieved cases may after the same period finally reach a stage of apparent cure.

Use of Sodium Cacodylate in Malaria

DR. EUGENE E. MURPHEY, Augusta, Ga.: Our present method is to administer 30 grains (2 Gm.) of sodium cacodylate, intravenously, divided into four doses of 7½ grains (0.5 Gm.) each, at six-hour intervals, until the parasites have entirely disappeared from the peripheral blood. This usually occurs by the end of the fourth day, after which the dose is halved and carried on for a fortnight. There has seemed to be no greater tendency to relapse or recrudescence after the arsenic is discontinued than is usual after the administration of quinine. There have been practically no reactions worthy of note, and decidedly less to be feared than is the case in the intravenous administration of quinine. Occasionally, nausea and vomiting, diarrhea, abdominal cramps and persistent complaint of a garlicky odor of the breath and metallic taste are the most prominent toxic symptoms observed. In cases of extreme urgency we have administered 15 grains (1 Gm.) intravenously as the initial dose and repeated it in six hours. From none of our treatment have we had any of the skin rashes which so frequently occur in arsphenamine therapy or after the use of stovarsol. We are not advocating the abolition of quinine therapy, but we believe that in many cases of the severe types of malaria, when no time is to be lost, this drug, in adequate doses, is an agent that is capable of at least temporarily arresting the progress of the disease. The advantages claimed for the use of sodium cacodylate are that it may be administered in relatively enormous doses in cases of malaria in which quinine cannot be given by mouth; its low toxicity and its freedom from reaction make it a more desirable drug in emergencies than quinine administered intravenously, and it is an acceptable substitute for quinine in cases of idiosyncrasy or intolerance. A sufficient number of cases have been studied in which arsenic alone was used to convince me that it will by itself permanently cure malarial fever.

Chronic Endocervicitis

DR. CHARLES H. RICHARDSON, JR., Macon: The treatment that I believe the only rational one is the thorough cauterization of the cervical canal and the eroded lips with the electric cautery. The cautery blade heated beyond a cherry red is applied to the diseased mucosa, and from four to eight linear cuts about 0.5 cm. in depth are made from within the canal out to the edges of the everted lips. If both lips are the seat of extensive erosion, the whole surface may be seared with the flat surface of the blade. If cystic follicles are seen, the cautery knife is plunged straight into them. A cotton tampon is placed within the vagina to absorb any oozing, and the patient is instructed to remove it at bedtime and to take two alkaline douches a day. Except in mild cases, the treatment will have to be repeated a second and third time. In about three months, the cervix appears pink and natural. Most of these patients are relieved of their backache, and their general well being is improved. Some of the advantages of the method are that it can be done without incapacitating the patient, it is painless, and there is no interference with subsequent pregnancies or confinement.

Unusual Manifestations of Malaria

DR. LEWIS M. GAINES, Atlanta: The malaria parasite is capable of causing a definite succession of characteristic symptoms. It often is the principal factor in causing atypical symptoms, as for example hemorrhagic or blackwater fever. It may produce many symptoms which masquerade under the guise of many types of other well known diseases. Many persons are suffering from impaired efficiency and bodily discomfort from this disease. It is important not only to identify those cases which are really the result of malarial infection but also not to diagnose as malaria diseases of other etiology. The safest protection from such mistakes is careful examination of the blood as a routine procedure.

Endemic Typhus Fever

DR. V. P. SYDENSTRICKER, Augusta: Endemic typhus has been reported not only from most of the larger Eastern cities but also from Chicago, Milwaukee, Washington, Atlanta, Savannah, Providence and points in Indiana and Virginia as well as the Rio Grande Valley. The disease is truly endemic outside of seaports and great centers of population. The diagnosis of endemic typhus may be difficult at the start. When the onset is abrupt with chill, it may be mistaken for malaria. Failure of the fever to respond to quinine and the appearance of the rash on the fifth or sixth day should serve to differentiate. From typhoid, the rapid onset, character of the rash, leukocytosis, negative Widal reaction, blood and stool cultures, together with the short duration, make differentiation relatively simple. From dengue, the severity of the headache, continuity of the fever, nature of the rash and leukocytosis should serve to separate it even in the presence of an epidemic of dengue. The differences from meningitis, measles and rubella are so striking that no comment is necessary. Some cases of severe secondary syphilis may present headache comparable to typhus and a rash that may be in some respects comparable, but fever and prostration of like degree are never present. We have seen eight cases.

Use of Dextrose for Children and a Pleasant Method of Administration

DR. W. L. FUNKHOUSER, Atlanta: Certain symptoms resulting from infectious and noninfectious disease, as well as nutritional disturbances, call for the use of dextrose to replace the glycogen lost in the increased demand of metabolism with tissue starvation. Among these are fever, vomiting, diarrhea, acidosis, alkalosis, acetonuria, cyclic vomiting, marasmus, malnutrition and hypoglycemia. Glucose is indicated as a preventive of postoperative acidosis by giving before and after any operative procedure. The contraindication for dextrose is in diabetes, celiac disease, carbohydrate intolerance, possibly in eczema, and then it has been found that it produces intestinal fermentation. A palatable and easy method of administering dextrose has been in orange juice. To 1 pint of water, 3 pounds of dextrose is added. This is cooked down rather rapidly. If cooked too rapidly, there is danger of scorching. This is poured out on a marble slab that is absolutely dry and clean and that has been wiped off with a vegetable oil, such as coconut oil. About one-fourth ounce of orange oil is worked into the candy. The amount of oil has to be governed by its strength. In a warm place the candy is shaped into the desired size, rolled and cut, and a stick stuck into the ball. A pound of dextrose will make a pound of candy. Therefore, the weight of the lollypop, less the weight of the stick, represents the number of grains of dextrose administered. It should be made perfectly clear to mothers that, while the dextrose lollypop may be used as a substitute for candy, it should not be given to well children except as other candy, not between meals, but as a dessert after the midday meal.

(To be continued)

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

83: 577-736 (May) 1926

*Dermoid Cysts of Mediastinum: Case. H. L. Beye, Iowa City.—p. 577.
*Hemiglossectomy by Endothermy in Carcinoma of Tongue. G. A. Wyeth, New York.—p. 585.
Technic of Use of Removable Radon Seeds in Carcinoma of Tongue. J. Muir, New York.—p. 598.
*Experimental Production of Duodenal Ulcer by Exclusion of Bile from Intestine. R. Kapsinow, New Haven, Conn.—p. 614.
*Aids to Cholecystectomy. C. L. Gibson, New York.—p. 618.
*Tuberculosis of Mesenteric Lymph Glands. J. R. Head, Chicago.—p. 622.
Pyelography in Diagnosis of Tumors of Flank. F. C. Herrick, Cleveland.—p. 634.
Acute Knee Joint Injuries. C. J. MacGuire, Jr., New York.—p. 651.
*Cutaneous Carcinoma of Lower Extremities. C. De Asis, St. Louis.—p. 663.
*Congenital Dislocation of Hips. K. Hale, Wilmington, Ohio.—p. 682.
*Acute Osteomyelitis in Children. C. E. Farr, New York.—p. 686.
*Reconstruction of Hip Joint Disorganized by Charcot's Disease. J. P. Hoguet, New York.—p. 693.
*Ununited Fracture of Hip. M. S. Henderson, Rochester, Minn.—p. 696.

Dermoid Cysts of Mediastinum.—The cyst in Beye's case was the size of an orange and contained a few loose hairs. It was completely lined by white, wrinkled skinlike epithelium, from which projected many fine grayish hairs. It had the appearance of skin on which a hot moist dressing had been applied for several days. The wall of the cyst was nearly 1 cm. thick, extremely tough and was tightly adherent to the adjacent pericardium, lung and diaphragm. It lay deeply in the angle between the heart and the lung.

Hemiglossectomy by Endothermy.—Wyeth's confidence in endothermy as a treatment for the removal of malignant lesions of the oral cavity, and his belief that better results will be achieved in the treatment of all neoplasms when endothermy is employed in the beginning in all those cases to which it is applicable are based on the record made by the method over a period of five years, a record made on patients referred for treatment in many instances after surgery and physical measures—one or both—had failed. Wyeth believes that endothermy should be given the preference in treating malignant lesions of the oral cavity.

Experimental Duodenal Ulcer.—Kapsinow found that exclusion of bile from the intestine by a cholecystonephrostomy with ligation of the common duct, frequently, leads to the formation of subacute and chronic ulcers in the duodenum.

Aids to Cholecystectomy.—Gibson advocates: free exposure and shelling out the gallbladder by "subserous excision" from its peritoneal coat so that nowhere is the surface or substance of the liver involved (that is, no hemorrhage or extravasation of bile results); the sealing of the cystic duct by peritoneal blockade, and closure of the wound without drainage in suitable cases, thus doing away with or minimizing the inevitable postoperative adhesions, which often spoil the results of an otherwise good operation; better methods of hemostasis, particularly of the cystic artery.

Tuberculosis of Mesenteric Lymph Nodes.—Head reports a case of rupture of a caseocalcareous tuberculous gland of the mesentery and presents a survey of the literature. In seventy-eight cases there were eight postoperative deaths. Two of these were complicated by ileus and two by rupture of a secondarily infected gland. Of the remaining seventy, fifty were followed longer than six months. Of these thirty-two were well, ten nearly well—one required reoperation after nine years, two had died of other diseases, two of the disease itself and three of miliary tuberculosis.

Cutaneous Carcinoma of Extremities.—Eighteen cases are reported by De Asis. These tumors are never a primary condition. They arise on an old ulcer or some other lesion. They are very rare. They comprise not more than 1 per cent of all the carcinomas in the different parts of the body, and from 1 to 4 per cent of all the cutaneous carcinomas. Trauma and burns play a very important part as exciting etiologic factors. Varicose veins and varicose ulcers are not the most important predisposing factors in the causation of most of the cutaneous carcinomas of the lower extremities. Cutaneous carcinomas of the lower extremities produce metastasis in the inguinal glands, either on the corresponding side alone or apparently on both sides, but mostly the former. Most of the cutaneous carcinomas of the lower extremities are of the squamous cell variety (prickle cell type).

Congenital Dislocation of Hips Developmental Error.—Some biologic evidence obtained from a study of congenital dislocation of hips in identical twins is presented by Hale which supports the developmental theory of this condition.

Acute Osteomyelitis in Children.—Farr regards acute osteomyelitis in children as a manifestation of septicemia with pyemic abscesses in the bones. The portal of entry for these organisms is frequently the skin. The probable underlying cause is a state of lowered vitality and resistance to infection. Local trauma plays a minor, if any, rôle in the causation.

Reconstruction of Charcot Hip.—Hoguet reports what he believes to be the first case of Charcot's disease of the hip to be treated by the reconstruction operation of Royal Whitman.

Bone Transplantation for Ununited Fracture of Hip.—The autogenous bone graft, wherein the aim is to restore as nearly as possible the normal condition, Henderson asserts, is the operation of choice, and the fact that he attained success in 76 per cent of twenty-one cases indicates that it compares favorably with the bone graft for nonunion in other bones. In three cases, the same happy result was accomplished by using the beef bone screws, but these cases were more favorable in every way. The remodeling operations of Brackett and Whitman were carried out in six other cases with good results in all. In the latter group, however, there was more residual stiffness than in the former group, and function, although satisfactory, was by no means as good. The duration of the nonunion is no criterion in selecting the type of operation. Some of the best results followed the anatomic type of operation, in which the bone graft was used, when nonunion had existed for two and one-half and three years. The autogenous bone graft should be used in cases of nonunion of the hip when the patient is in good health, when the disability is considerable, and when enough of the neck of the femur is left.

Boston Medical and Surgical Journal

194: 869-912 (May 13) 1926

*Measles Prophylaxis: Use of Blood from Convalescents in School Epidemic. J. H. Townsend, Concord, N. H.—p. 869.
Syphilis of Bladder. A. Riley, Boston.—p. 874.
Active Intestinal Peristalsis as Aid in Reduction of Incarcerated Hernias. H. B. Sheffield, New York.—p. 876.
Service Available at Lakeville. L. A. Alley, Middleboro, Mass.—p. 878.
Nonpulmonary Tuberculosis and Profession. J. E. Stone, Boston.—p. 880.
Landmarks in State's Care of Tuberculous. V. Y. Bowditch, Boston.—p. 882.
Broadening of Tuberculosis Program. L. R. Williams, Albany, N. Y.—p. 884.
Nonpulmonary Tuberculosis and Public. K. Emerson, Worcester, Mass.—p. 888.
Progress in Study and Treatment of Cardiovascular Disease in 1925. T. D. Jones and H. B. Sprague, Boston.—p. 889.

Measles Prophylaxis.—The use of prophylactic measures in an epidemic of sixty-three cases of measles in a boarding school of 400 boys is described by Townsend. In a dosage of 20 cc., blood from an adult who had measles twenty years previously seemed to have no effect either in preventing or in modifying the disease. Blood from convalescents in a dosage of 9 cc. of whole blood (from 5 to 5.5 cc. of serum) had little or no effect in preventing infection, but influenced markedly the course of the disease when it was given before the end of the first week of the incubation period. Thirty-two patients in whom convalescent blood was injected at least eight days before the development of the rash showed an average dura-

tion of the febrile period of 3.66 days, whereas twenty-one boys who received no inoculation showed an average duration of the febrile period of 6.45 days. The average maximum temperature of the thirty-two who received convalescent blood at least eight days before the development of the rash was 102.5 F., whereas the average maximum temperature of the twenty-one who received no inoculation was 103.5 F. The average stay in the infirmary of the thirty-two inoculated boys was 9.7 days, whereas the average stay of the control group was 13 days. No complications whatever occurred in the inoculated group of thirty-two, whereas in the control group of twenty-two there was one case of bronchopneumonia, one of otitis media, one of frontal sinusitis, and one of external otitis. The mild character of the disease in many of the boys who received inoculations was very striking. The inoculations had no ill effects whatever. Beneficial effects were obtained whether the blood was administered as late as six days after exposure or as early as twelve days before the probable date of infection.

California and Western Medicine, San Francisco

24: 577-720 (May) 1926

Making World Better. E. N. Ewer, Berkeley.—p. 609.
Looking Backward with Satisfaction and Forward Without Apprehension. W. T. McArthur, Los Angeles.—p. 614.
*Effects of Insulin Treatment on Experimental Diabetes of Dogs. E. F. F. Copp, La Jolla.—p. 618.
*Treatment of Acute Peritonitis. A. Weeks and L. Brooks, San Francisco. —p. 622.
Clinical Significance of Bundle Branch Lesions. A. S. Granger, Los Angeles.—p. 626.
*Clinical Picture of Beginning Carcinoma of Stomach with Animadversions on Roentgen-Ray Illusions in Gastro-Intestinal Disease. H. I. Wiel, San Francisco.—p. 628.
*Functions of Humidity. D. Blake, San Diego.—p. 631.
Vincent's Angina: Significance of Fusiform Bacilli and Spirilla in Mucous Membrane Lesions. H. E. Miller and N. Epstein, San Francisco.—p. 633.
Blood Staining of Cornea. C. Maghy, Los Angeles.—p. 637.
*Thyroiditis. H. H. Searls and E. I. Bartlett, San Francisco.—p. 639.
Surgical Aspects of Tuberculous Peritonitis. C. D. Lockwood, Pasadena. —p. 642.
Recognition of Psychoneuroses. J. B. Doyle, Rochester, Minn.—p. 645.
Etiology of Eclampsia. P. O. Sundin, Los Angeles.—p. 652.

Effect of Insulin on Experimental Diabetes.—The pathologic changes of the pancreas as a result of diabetes, whether seen in man or in the dog, Copp says, are almost identical. In both cases the beta cells of the islands become vacuolated as a result of functional overstrain. Copp has seen that the pathologic changes of the pancreas of diabetic dogs return under careless control, and believes the same occurs in man. Complete disappearance of the hydropic degeneration of these beta cells of the islands of Langerhans and the restoration of the islands to normal was found after a period of fourteen days of insulin treatment. About the ninth day vacuolation began to subside, but before this period very little recovery could be noticed. Careless control of the diabetes showed that the functional overstrain on the islands had not been relieved, as they still showed hydropic degeneration. Copp says there is reason to believe that hyperglycemia, without sugar in the urine, will prevent the clearing up of the pathologic picture of vacuolation of island cells.

Treatment of Acute Peritonitis.—Weeks and Brooks relate their experience with 5 per cent glucose, 5 per cent sodium bicarbonate and physiologic sodium chloride solution in the treatment of peritonitis.

Early Symptoms of Carcinoma of Stomach.—Wiel relates a case proved by surgical operation and histologic findings to be one of carcinoma of the stomach actually in its very first stages. The history is typically that of the usual patient—indigestion, pain and coffee-ground vomitus with loss of weight. Wiel stresses particularly the failure of the roentgen rays in depicting a characteristic picture and urges not to place too much reliance on this aid to diagnosis.

Functions of Humidity.—A thorough understanding of humidity Blake regards as being vital to public health, and its study should be removed from the physicist's laboratory and placed where its many branches and ramifications can be approached, not only by the theorist, but by the practical man as well. To insure a minimum amount of affections of the throat and nose, and consequently the respiratory organs, these problems should be studied by the physician, the architect, the contractor, the builder and the meteorologist.

Thyroiditis.—A true chronic diffuse thyroiditis is very difficult of diagnosis. Of seventeen such cases selected by Searls and Bartlett for their typical pathologic picture, only three were correctly diagnosed preoperatively, the condition in eight being called toxic adenomas, and in the remaining six hyperplasia. Of these seventeen cases of chronic thyroiditis from four years to six months postoperative, nine patients have answered follow-up letters recently. One received no benefit from her surgical treatment, became progressively weaker, developed a psychosis and died. Another died a few months after operation of an apparently independent condition. Of the remaining seven, two report that they were moderately improved, two that they were very markedly improved, and three that they were completely cured by their surgical treatment. Concerning the effect of treatment on signs and symptoms of insufficiency, four noted marked improvement and three observed no change. A second series (twenty cases) in which the pathologic picture was that of hyperplasia with an associated chronic thyroiditis was also analyzed from the standpoint of the clinical picture in an endeavor to establish grounds for a secondary diagnosis of inflammation. In these cases, prognosis was far better than in the pure thyroiditis cases. Nine out of the twenty patients answered follow-up letters. All of these felt that operation had cured them. Signs of hypothyroidism were more persistent. Only three noted return to normal, in the amount and texture of their hair and a cleaning up of their skin. Four considered that there was some improvement, while in the remaining two these conditions have become worse. Two cases of "iron-hard" thyroiditis are being followed. Both are very much improved. One shows a suggestion of hyperfunction, while the other evidences mild insufficiency.

Illinois Medical Journal, Oak Park

49: 353-440 (May) 1926

Nephritis. F. M. Allen, Morristown, N. J.—p. 401.
Recent Advances in Urology. D. N. Eisendrath, Chicago.—p. 406.
*Treatment of Endamebiasis: Stovarsol. P. W. Brown, Rochester, Minn. —p. 410.
Roentgenotherapy of Fibroids and Other Gynecologic Diseases. M. E. Hanks, Chicago.—p. 414.
Ununited Fracture of Humerus of Forty Years' Standing. R. E. Hunt, Belvidere.—p. 419.
Medical Treatment of Peptic Ulcer. A. A. Goldsmith, Chicago.—p. 420.
Treatment of Fractures. F. Christopher, Winnetka.—p. 425.
Inventory. M. Pfeiffenberger, Alton.—p. 430.
*Prophylaxis of Carcinoma of Rectum. J. R. Pennington, Chicago.—p. 433.
Does Smoking Affect Vision? F. L. Alloway, Champaign.—p. 434.
Strangulated Hernia in Eighteen Day Old Baby: Operation; Recovery. B. H. Breakstone, Chicago.—p. 436.

Treatment of Endamebiasis.—The wide distribution of *Endameba histolytica* is stressed by Brown. He says that emetine continues to be an invaluable drug in the treatment and seems to be particularly effective in rapidly controlling most of the acute phases of endamebiasis. The organic arsenical compounds would seem to be more effective in eradicating the parasite than are ipecac and its derivatives. The possibilities of cure depend more on persisting with varying types of treatment rather than on any one drug. From a small series of cases of ulcerative amebic proctitis, the indications are that recurrence is more likely in this group than in those without gross ulcerative lesions.

Prophylaxis of Carcinoma of Rectum.—It is generally agreed that cancer never begins in healthy tissue. Conceding this, Pennington says, cancer of the rectum is a secondary disease and as such is largely preventable. The early symptoms of cancer of the rectum, then, are those of such conditions as are responsible for the development of cancer. Such symptoms, however, are not always the precursor of cancer, any more than bleeding is always the precursory symptom of hemorrhoids. Preventive treatment, or rather the cure of those ailments which may lead to the development of cancer of the rectum, is the treatment *par excellence*. The terminal bowel should receive periodic examinations and

efficient treatment of any and all of its pathologic conditions when discovered. Moreover, such conditions should be removed by that method which leaves the least possible scar or point of irritation, as cancer may develop in either.

Indiana State Medical Association Journal, Ft. Wayne

19: 185-220 (May) 1926

Invasion of Syphilis. F. W. Cregor and F. M. Gastineau, Indianapolis.—p. 185.
Renal Decapsulation in Mercuric Chloride Poisoning: Case. E. R. Denny, Miami Beach, Fla.—p. 186.
Cesarean Section Under Local Anesthesia. C. O. McCormick, Indianapolis.—p. 188.
Actinomycosis: Case Involving Duodenum and Biliary Tracts. M. Buchsbaum, Gary.—p. 191.
Roentgenographic Examination in Diagnosis of Chronic Respiratory Infections. C. A. Stayton, Indianapolis.—p. 193.

Iowa State Medical Society Journal, Des Moines

16: 205-254 (May) 1926

Diagnosis of Heart Lesions. R. B. Preble, Chicago.—p. 205.
*General Practice and Relation to Preventive Medicine. W. J. Connell, Dubuque.—p. 210.
Public Health in Rural Communities. J. H. Chittum, Wapello.—p. 213.
*Treatment of Chronic Ulcerative Colitis. J. A. Bargen, Rochester, Minn. —p. 218.
Cecal Ptosis. K. L. Johnston, Oskaloosa.—p. 221.
Plea for Psychiatry in Field of Medical Science. A. D. McKinley, Des Moines.—p. 224.
Cooperation in Management of Peptic Ulcer. W. E. Gatewood, Iowa City.—p. 230.
Some Surgical Conditions Found in Lower Abdomen. M. J. McGrane, New Hampton.—p. 236.
Incidence of Meckel's Diverticulum. R. C. Coleman, Estherville.—p. 238.

County Health Activities.—Connell suggests that enabling legislation be provided for the establishment of county health units. All health activities should be under the supervision of the state and county medical societies. Rickets is preventable. Cod liver oil should be given to practically all children over 2 months of age, especially from October to April. All children should be immunized against diphtheria at 1 year of age. Diphtheria can gain no foothold in an immune population.

Etiology and Treatment of Chronic Ulcerative Colitis.—Published in *Archives of Internal Medicine*, December, 1925, and abstracted in THE JOURNAL, March 27, p. 979.

Kentucky Medical Journal, Bowling Green

24: 201-238 (May) 1926

*Simplified Technic for Anastomosis of Large Bowel. F. P. Strickler, Louisville.—p. 202.
Blood Chemistry in Diagnosis and Prognosis of Disease. E. S. Maxwell, Lexington.—p. 206.
Surgery of Pancreas. L. Frank, Louisville.—p. 209.
Use of Dyes in Treatment of Disease. H. H. Hagan, Louisville.—p. 213.
Some Surgical Considerations of Tumors of Breast. G. Aud, Louisville. —p. 220.
Radiation Therapy of Female Breast. J. P. Keith and D. Y. Keith, Louisville.—p. 222.
Infant Feeding. J. W. Bruce, Louisville.—p. 230.
*Bilateral Optic Neuritis from Menstrual Disturbance: Case. S. G. Dabney, Louisville.—p. 235.

Anastomosis of Large Intestine.—In the method described by Strickler, the crushed ends of the intestinal stumps are severed, thereby leaving the smallest possible diaphragm at the site of the anastomosis. An instrument has been devised to accomplish this step of the operation. The operation is performed with the aid of a Eve's tonsil snare, having a tubular knife which fits snugly over the shaft of the tonsil instrument. The snare is of the type provided with an adjustable ratchet, and simply holds the intestines in position. The tubular knife is used to sever the ligated stumps of the intestines at the site of the anastomosis. The anastomosis is aseptic. At no step of the operation is the lumen of the intestines entered, thereby reducing infection to the minimum. Also the smallest possible diaphragm is left within the lumen of the anastomosed intestines, greatly reducing the amount of scar tissue and the possibility of constrictions.

Optic Neuritis from Menstrual Disturbance.—Dabney reports the case of a girl, aged 11, who had optic neuritis caused by toxemia due to menstrual disturbances. There was typical optic neuritis with swelling of the disk and both eyes were affected. The history shows no other cause for the condition except menstrual disturbances.

Michigan State Medical Society Journal, Grand Rapids

25: 205-258 (May) 1926

*Transport Mechanism of Alimentary Tract and Clinical Significance. C. F. McClintic, Detroit.—p. 205.
Newer Things in Dentistry. W. G. Kinyon, Traverse City.—p. 209.
Ear Complications in Some of More Common Acute Infectious Diseases. B. F. Glowacki, Detroit.—p. 211.
*Frequency of Lethargic Encephalitis in Michigan. N. R. Smith, Ann Arbor.—p. 214.
State Efforts to Prevent Insanity. E. S. Neihardt, South Boardman. —p. 215.
Teeth: Their Uses and Abuses. L. I. Luton, Detroit.—p. 218.

Transport Mechanism of Alimentary Tract.—McClintic shows that at definite locations along the gastro-intestinal tract there are nerve centers from which the impulses regulating gastro-intestinal movements take origin. From disturbances of these nodes, abnormal motor activity may result, such as vomiting, intestinal stasis, spasm, spastic constipation and atonic constipation. A knowledge of the neuromuscular mechanism involved in motor disturbances of the alimentary tract forms a rational basis for the therapeutic treatment of the condition; e. g., to relax a spasm by local action on the musculature, magnesium sulphate may be used; to relax the spasm by acting on the intrinsic ganglion, atropine may be used, or by action on the sympathetic ganglion, epinephrine may be used. To tone up the neuromuscular mechanism in atonic states, pituitary extract and physostigmine may be used for local action and strychnine for its stimulating effect on the spinal cord mechanism. The application of the principles has proved successful in practice.

Epidemic Encephalitis in Michigan.—During 1923, 1924 and 1925, there occurred in Michigan 188 cases of epidemic encephalitis with 165 deaths. From 1921 to 1925, there occurred 152 cases of Parkinson's syndrome following encephalitis.

Military Surgeon, Washington, D. C.

58: 449-592 (May) 1926

Medical Service in France. B. K. Ashford.—p. 491.
Diverticulum Hernia of Bladder. H. W. Jones and F. M. Moose.—p. 508.
Foods and Deficiency Diseases in War. J. H. Huddleson.—p. 510.
Eccentricity: Factor in Leadership and Morale. B. F. Duckwall.—p. 524.

Minnesota Medicine, St. Paul

9: 217-290 (May) 1926

Psychotherapy in Surgery. V. Pauchet, Paris.—p. 217.
Clifford Allbutt and Medical Ophthalmoscopy. W. L. Benedict, Rochester, —p. 222.
Formation of Bilirubin. F. C. Mann, C. Sheard and J. L. Bollman, Rochester.—p. 227.
Thyroxin. E. C. Kendall, Rochester.—p. 230.
*Poliomyelitis. E. C. Rosenow, Rochester.—p. 231.
Cysts of Thyroglossal Duct. W. E. Sistrunk, Rochester.—p. 235.
Surgery in Home. R. L. Christie, Long Prairie.—p. 237.
*Mercurochrome in Acute Infections of Central Nervous System. W. H. Hengstler, St. Paul.—p. 240.
*Volvulus of Small Intestine. C. C. Kennedy, Minneapolis.—p. 243.
Surgical Treatment in Duodenal Ulcer. V. S. Cabot, Minneapolis.— p. 248.
Diagnosis and Medical Management of Duodenal Ulcer. A. A. Wohlrabe, Minneapolis.—p. 250.
Inflammation from Duodenal Ulcer, with Obstruction of Common Bile Duct. S. F. Haines, Rochester.—p. 265.
Mucocele of Appendix. F. Christopher, Winnetka, Ill.—p. 265.
Fibroma of Ovary. H. M. N. Wynne, Minneapolis.—p. 267.

Poliomyelitis.—In preliminary tests with various antigens, it has been found by Rosenow that strains of the streptococcus freshly isolated from poliomyelitis and which produced flaccid paralysis in rabbits yield suitable toxic antigens when grown for twenty-four hours in pancreatic digest broth, to which approximately 10 per cent of ascites fluid is added at the time of inoculation. Thus far, the skin test has been made on twenty-eight persons who had recovered from attacks of poliomyelitis from four weeks to years previously. Of these, twenty-one gave a negative reaction and seven a mildly positive reaction. All of three patients with poliomyelitis gave strongly positive reactions during the acute attack, while two of these reacted negatively a month later. One gave strongly positive reactions on the third day of illness, mildly positive reactions eight days later, and negative reactions four weeks after the onset of the attack. Nine persons, mostly children, who had what was considered abortive attacks of poliomyelitis during an epidemic, were tested from five to eight weeks

later. Six gave negative and three mildly positive reactions. The results in controls, chiefly in family groups in whom no illness suggestive of poliomyelitis had occurred, were as follows: strongly positive in twenty-five cases, mildly positive in eighteen, and negative in seventeen. Of forty-five children from 5 to 10 years of age at an orphanage, 73 per cent gave a strongly positive reaction, and of the remaining thirty-one children from 11 to 16 years of age, 45 per cent gave a strongly positive reaction. Of ninety-eight high school pupils ranging from 14 to 19 years of age, only 28 per cent gave a strongly positive reaction.

Mercurochrome in Central Nervous System Infection.—As the result of his experience, Hengstler concludes that mercurochrome is of no value in the treatment of central nervous system infection. Three cases of meningitis, occurring secondary to middle ear infection in which this treatment failed, are reported.

Volvulus Due to Adhesions.—The five cases of volvulus reported by Kennedy were all due to the ileum becoming adherent to some other structure, the gallbladder, an ovarian cyst, the sac of a hernia, the ovary, the uterus and adnexa.

Nebraska State Medical Journal, Norfolk

11: 169-208 (May) 1926

*Multiple Sarcoma of Brain. T. L. Houlton, Omaha.—p. 169.
Classification of Goiter: Iodine Therapy. W. J. Arrasmith, Grand Island. —p. 174.
Pneumothorax. S. O. Reese, Lincoln.—p. 178.
Laboratory Service. W. B. Moody, Omaha.—p. 181.
Pathology of Malnutrition. V. E. Levine, Omaha.—p. 184.
Report of Nebraska Hospital Committee of American College of Surgeons. M. Emmert, Omaha.—p. 189.
Medical Education and Country Doctor in Nebraska. F. A. Long, Madison.—p. 191.
Choice of Operation for Cancer of Rectum. C. J. Drueck, Chicago.—p. 195.
Hydatid Cyst of Inferior Border of Liver. N. H. Rasmussen and T. E. Riddell, Scottsbluff.—p. 198.

Multiple Sarcoma of Brain.—There were two tumors in Houlton's case, a small one giving no symptoms, and a large one, giving very definite and interesting neurologic findings. There was a fair sized, somewhat encapsulated tumor mass in the genu and posterior wing of the left internal capsule, and a second smaller mass, about the size of a pea, beneath the cortex of the frontal lobe of the same side, well forward from the motor area. The larger tumor in the posterior wing of the internal capsule had penetrated for a short distance into the adjacent tissue of the basal ganglion. The posterior horn of the lateral ventricle was partially obliterated by the growth.

New Jersey Medical Society Journal, Orange

23: 203-260 (May) 1926

Fatigue as Preclinical Symptom of Disease. G. B. Emory, Morristown. —p. 203.
Preclinical Stage of Cardiovascular Disease. H. M. Larson, Morristown. —p. 206.
Early Evidence of Mental and Nervous Disorders. G. B. McMurray, Greystone Park.—p. 209.
Preclinical Signs and Symptoms of Gastro-Intestinal Disease. E. N. Peck, Boonton.—p. 211.
Preclinical Evidence in Gynecology. I. F. Frost, Morristown.—p. 212.
Preclinical Signs and Symptoms of Disease of Genito-Urinary System. T. S. Thomas, Morristown.—p. 215.
Periodic Health Examinations. A. C. Morgan, Philadelphia.—p. 221.

New Orleans Medical and Surgical Journal

78: 719-792 (May) 1926

Truth Versus Prejudice. C. M. Ellis, Crowley, La.—p. 719.
Suprarenal Hemorrhage in Newly Born. M. Loeber and E. H. Lawson, New Orleans.—p. 723.
Thymus Enlargement in Infants and Children. H. F. Garrison, Jackson, Miss.—p. 727.
Nontuberculous Diseases of Chest. F. W. Henderson, New Orleans.—p. 730.
Use of Pituitary Extract in Obstetrics. E. H. Linfield, Gulfport, Miss. —p. 733.
Diagnosis of Goiter. W. C. Chaney, Memphis, Tenn.—p. 737.
Gastric and Duodenal Ulcer and Duodenal Carcinoma. E. Bloch, New Orleans.—p. 742.
Afro-American Therapeutics. G. M. Niles, Atlanta, Ga.—p. 747.
Cancer: Its Control. W. F. Wild, New York.—p. 750.
Lactic Acid Milk in Infant Feeding. F. S. Hill, Grenada, Miss.—p. 759.
*Insulin in Treatment of Persistent and Pernicious Vomiting in Pregnancy. T. B. Sellers, New Orleans.—p. 761.
Appendicitis. E. S. Bramlett, Oxford, Miss.—p. 766.

Insulin in Treatment of Vomiting of Pregnancy.—Sellers agrees with Thalhimer that the most plausible explanation of toxemia in early pregnancy is a defective carbohydrate metabolism, rather than a deficiency in the carbohydrate. In the more serious cases, or cases in which it is not practical to use the duodenal tube, 1,000 cc. of 5 per cent chemically pure glucose solution is given, preferably by the Matas-intravenous drip. For every 2 Gm. of glucose, one unit of insulin is given hypodermically. This is repeated in six hours. Up to the present time, this method has proved 100 per cent efficient.

Northwest Medicine, Seattle

25: 221-284 (May) 1926

Cerebrospinal Fluid, Normal and Pathologic. A. L. Skoog, Kansas City, Mo.—p. 222.
Diagnosis of Intracranial Lesions. G. W. Swift, Seattle.—p. 229.
Pain as Symptom of Disease, Particularly of Nervous System. H. W. Woltman, Rochester, Minn.—p. 233.
Spinal Anesthesia in Abdominal Surgery. C. H. Bastron, Portland, Ore. —p. 240.
Relation Between Audition and Circulation of Blood in Head. H. Stillson, Seattle.—p. 242.
Cerebrospinal Meningitis. C. H. Hofrichter and J. W. Unis, Seattle. —p. 245.
Newer Problems in Nonsurgical Rhinology. R. A. Fenton, Portland, Ore. —p. 248.
Bezold's Mastoiditis; Blood Count in This Disease. L. H. Klemptner, Seattle.—p. 253.
Paraffin Treatment for Burns and Denuded Areas. D. V. Trueblood, Seattle.—p. 255.
Treatment of Cancer of Rectum by Percy Cautery and Endothermy. A. C. Crookall, Seattle.—p. 258.

Ohio State Medical Journal, Columbus

22: 378-472 (May) 1926

Liver Function Tests. S. S. Berger, M. B. Cohen and J. J. Selman, Cleveland.—p. 397.
Avoidable Sequelae of Surgery. R. H. McKay, Akron.—p. 401.
Periodic Health Examinations. L. A. Levison, Toledo.—p. 402.
Results of Heliotherapy (Quartz Lamp) Employed in Psychopathic Hospital. C. W. Stone, Cleveland.—p. 405.
Malnutritions in Dairy Community. G. L. Lyne, Sebring.—p. 406.
Case of Osteochondritis of Second Metatarsal. M. Harbin, Cleveland. —p. 408.

Physical Therapeutics, Baltimore

44: 195-250 (April) 1926

Dietetic Suggestions for Cancer, Polyarthritis and Arteriosclerosis. A. Bassler, New York.—p. 195.
Physiotherapy in Postoperative Management of Surgical Cases. J. T. Case, Battle Creek, Mich.—p. 205.
Chronic Arthropathies from Roentgen-Ray Viewpoint. E. S. Blaine, Chicago.—p. 213.
Diathermy in Osseous Disease and Injury. C. R. Brooke, Newark, N. J. —p. 217.
Small Versus Large Doses in Deep Roentgen-Ray Therapy. J. D. Morgan, Philadelphia.—p. 226.

Virginia Medical Monthly, Richmond

53: 71-140 (May) 1926

Lung Collapse in Treatment of Pulmonary Tuberculosis. D. B. Cole, F. S. Johns and P. E. Schools, Richmond.—p. 71.
Puerperal Sepsis: Cases of Intrapartum Infections. M. B. Savage, Norfolk.—p. 74.
*Excessive Vomiting of Pregnancy. L. A. Calkins, University.—p. 78.
*Partial Gastrectomy Under Local Anesthesia for Cancer of Stomach in Man 71 Years of Age. J. S. Horsley, Richmond.—p. 80.
Functional Disorders. B. R. Tucker, Richmond.—p. 85.
Paralysis of Third, Fourth and Sixth Nerves from Sphenoidethmoid Disease. C. M. Miller, Richmond.—p. 88.
Bedside Study of Circulation in Acute and Chronic Infections. G. Nelson Richmond.—p. 91.
Local Anesthesia. W. B. Marbury, Washington, D. C.—p. 95.
Treatment of Eclampsia. M. P. Rucker, Richmond.—p. 97.
*Chronic Hypertension Nephritis in Child, Showing Unusual Neurologic Symptoms. F. H. Redwood, Norfolk.—p. 103.
Diphtheria. J. A. Wright, Doswell.—p. 105.
Present Method of Dealing with Kidney and Ureteral Stone. S. Highsmith, Fayetteville, N. C.—p. 107.
Acute Mastoiditis in Infants: Three Cases. G. B. Dudley, Martinsville. —p. 110.
Diabetes. A. T. Finch, Chase City.—p. 111.
Bone Infections. A. Myers, Charlotte, N. C.—p. 115.
Health in Relation to National Defense. W. A. Gills, Richmond.—p. 119.

Treatment of Vomiting of Pregnancy.—Calkins puts his patients to bed; then, after a period of a couple of hours, the definitive treatment is begun. They are given by rectum 60 grains (4 Gm.) of sodium bromide in 2 or 3 ounces (60 or 90 cc.) of water. This medication is repeated every six hours so that the patient receives four doses of 60 grains,

a total of 240 grains (16 Gm.), in each twenty-four hours. It is usually necessary to place the patient on complete starvation for the first twenty-four hours, neither solids nor liquids being allowed. This will serve to stop the retching, which may otherwise continue. At the end of the twenty-four hour period, feeding is begun. At first small amounts of either liquids or solids are allowed, as desired by the patient. The heavy doses of the bromide are continued for a varying period of time, according to the severity of the vomiting and the response of the patient. Usually the patient will be so well under the effects of bromides after two or three days that the dose can then be gradually diminished, first to a 50 grain (3.3 Gm.) dose; then, after a period of another two or three days, to a 40 grain (2.6 Gm.) dose; and then, at the next step, begin giving 20 grains (1.3 Gm.) by mouth, preserving the six hour interval as nearly as possible. During this time the feeding is increased and the patient rather rapidly gotten up to a truly high carbohydrate diet.

Partial Gastrectomy for Cancer.—Horsley removed the right half of the stomach from a man, aged 71, for an adenocarcinoma of moderate malignancy with some tendency to colloid degeneration, in December, 1925. This case is interesting because the age of the patient, almost complete obstruction, and apparent cachexia, together with the presence of secondary anemia and a slight chronic nephritis, constituted what would ordinarily be considered an exceedingly bad risk. His general health now is excellent. He has no symptoms of stomach trouble, and eats average meals with comfort. He has gained 16 pounds (7.3 Kg.).

Chronic Nephritis in Child, with Sclerosis of Cerebral Vessels.—Redwood cites the case of a girl, aged 11, whose blood pressure was 230 systolic and 170 diastolic, with four plus blood in the urine and a heavy trace of albumin. Headache and nausea were the chief subjective symptoms. The girl died in coma. Twenty-four hours before death the blood pressure was 290 systolic. When the brain was removed, a most marked degree of arterial change was noted. Both the large and small vessels appeared like pipe stems, especially at the base of the brain. The vessels, when cut, were somewhat resistant to the knife, there being apparently little elastic tissue left. The brain as a whole was somewhat edematous, but no definite cerebral lesion was demonstrated microscopically. The cerebral meninges appeared normal. Microscopic study of the brain, kidneys and blood vessels showed the walls of the vessels greatly thickened with nodules consisting of elongated thickly staining cells. There was some endothelial swelling with fatty detritus and globules within the cells. All of the vessels showed widespread thickening.

West Virginia Medical Journal, Charleston

22: 225-280 (May) 1926

Biliary Surgery. A. C. Harrison, Baltimore.—p. 225.
Ether in Treatment of Secondary Pneumonias of Childhood. G. M. Lyon Huntington.—p. 229.
Pathology and Treatment of Chronic Arthritis. R. Pemberton, Philadelphia.—p. 233.
Combined Use of Glucose and Insulin in Surgery. R. K. Buford, Charleston.—p. 240.
Observations in Eye, Ear, Nose and Throat Practice. T. W. Moore, Huntington.—p. 243.
Medical Treatment of Inflammation of Nasal Accessory Sinuses. J. E. McKenzie, Beckley.—p. 245.
Oral Sepsis as Etiologic Factor in Peptic Ulcer. J. S. Klump, Huntington.—p. 248.

Wisconsin Medical Journal, Milwaukee

25: 213-272 (May) 1926

Physical Basis of Physiologic Action of Roentgen Rays. H. N. Beets, Chicago.—p. 213.
Biologic Effects of Roentgen Ray and Gamma Rays. C. R. Bardeen, Madison.—p. 215.
Rôle of Roentgen-Ray Therapy in Treatment of Malignant Conditions. U. V. Portmann, Cleveland.—p. 223.
Rôle of Radium in Treatment of Malignant Lesions of Mouth, Face and Neck. T. E. Jones, Cleveland.—p. 226.
Carcinoma of Uterine Cervix Treated with Electric Coagulation and Radium. K. H. Doege, Marshfield.—p. 230.
Influenza Epidemic of 1920. W. S. Middleton, Madison.—p. 237.
Obesity: Endocrine or Dietary. E. L. Sevringhaus, Madison.—p. 241.
Acute Lymphatic Leukemia: Case. R. L. Gilman, Ashland.—p. 246.
Motor Innervation of Diaphragm. K. Schlaepfer, Milwaukee.—p. 248.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 855-890 (May 22) 1926

*Cardio-Aortic Syphilis: Treatment. T. F. Cotton.—p. 855.
Mental Inefficients: Treatment or Punishment. W. A. Potts.—p. 857.
*Simple Modification of Midwifery Forceps. J. H. Ferguson.—p. 859.
Case of Sacrococcygeal Chordoma. A. Richardson and A. L. Taylor. —p. 862.
*Prophylactic Value of Scarlet Fever Antitoxin. E. H. R. Harries, D. Hervey and V. Fellowes.—p. 864.
Phenolaine in Ophthalmology. A. Ferguson.—p. 865.
Intra-Uterine Amputation of Left Leg. W. Hornsby.—p. 866.
Two Neonatal Deaths. T. E. Francis and A. B. Slack.—p. 866.

Treatment of Cardio-Aortic Disease.—Cotton holds that antisyphilitic treatment is indicated in syphilitic cardio-aortic disease; that no danger is attached to intravenous injections of arsenic in moderately large doses given without any special precautions, and that arrest in the disease, as shown from the after-histories of patients treated, may be due to antisyphilitic treatment given over a period of five years.

Modified Midwifery Forceps.—The forceps devised by Ferguson are said to be adapted mainly for traction in the cavity and at the outlet, which practically nowadays are the only situations in which forceps should be used; but, in addition, these forceps have potential arrangements for almost perfect high axis traction by tape attachment.

Value of Scarlet Fever Antitoxin.—Harries, Hervey and Fellowes assert that 2.5 cc. of a good concentrated scarlet fever antitoxin will protect a child susceptible to scarlet fever (as assessed by a skin test dose of Dick toxin) for at least a fortnight, and that 10 cc. of an unconcentrated serum of known high blanching titer will confer similar protection, although with less certainty. Concentrated serum in a dose of 2.5 cc. did not produce a serum rash in any of four cases investigated.

Edinburgh Medical Journal

33: 269-328 (May) 1926

*Radiographic Exploration of Bronchopulmonary System by Means of Lipiodol. J. Guy and H. C. Elder.—p. 269.
Oxycephaly. D. M. Greig.—p. 28.
*Tuberculous Lesions in Four Hundred and Four Postmortem Examinations. T. R. R. Todd.—p. 303.

Use of Lipiodol in Lung Roentgenography.—Guy and Elder plead for a wider and more extended application of lipiodol in the diagnosis of bronchopulmonary affections.

Frequency of Tuberculous Lesions in Nontuberculous Persons.—Tuberculous lesions were found by Todd in 69 per cent of 386 persons who died from diseases other than tuberculosis. In 50 per cent of these calcareous—that is to say, healed—lesions were found. In 9 per cent the lesions were quiescent and in another 9 per cent they were active. Lungs and tracheobronchial glands were the organs most frequently involved in adults. Lungs, tracheobronchial glands and mesenteric glands, in that order, were the most common site of tubercle. Other organs, except cervical glands, Todd says, are infected secondarily to those mentioned above. Tuberculosis of the kidney is always a later manifestation and does not heal. There is evidence of a marked tuberculization of abdominal type occurring during early years, and of a later and more constant tuberculization affecting the lungs and the bronchial glands in adult life. Evidence is afforded by the figures relating to abdominal glandular lesions of a marked tendency for those lesions to disappear within the individual. The degree of tuberculization of the population must, therefore, very considerably exceed the percentage of tuberculous lesions which have been found in this series of examinations. It must be greater than 69 per cent. From the facts demonstrated that tuberculosis in later life is mainly pulmonary in type and subacute or chronic in nature, and that in a large proportion of cases the pulmonary disease must have been preceded in the individual by definite abdominal tuberculosis, it would appear that a resistance to this disease is active during later life, and that the disease in a large number of instances must have been due to a lighting up of an early infection and not to a reinfection.

National Medical Journal of China, Shanghai

12: 125-201 (April) 1926

Scarlet Fever Streptococcus Antitoxin. J. W. H. Chun and H. Jettmar. —p. 125.
*Case of Myxedema Simulating Beriberi. C. L. Tung.—p. 142.
*Mercurochrome-220 Soluble in Treatment of Typhoid and Paratyphoid Fevers. E. S. Tyau.—p. 152.
Chemical Analysis and Animal Experimentation of Quisqualis Indica. K. M. Wu.—p. 161.
Use of British Boxer Indemnity Fund for Promotion of Public Health in China. F. C. Yen.—p. 171.
*Soy Sauce as Stimulative Agent in Development of Beriberi in Pigeons. A. A. Horvath.—p. 176.

Myxedema Simulating Beriberi.—A case of myxedema lasting about seventeen years was treated without success in various clinics, because the true nature of the condition was not recognized. It was mistaken for beriberi, on account of myalgia of the lower extremities, puffiness beneath the eyelids and over the face, and swelling, including myxedema and true edema, of the extremities, especially the lower, and on account of the overwhelming prevalence of beriberi in East China. Thyroid therapy promptly raised the very slow pulse rate of 50 per minute to 80, and the subnormal temperature of 95 F. to 98.6 F.; entirely relieved the pain in the lower extremities; caused a rapid disappearance of edema as well as a myxedematous condition of the body; imparted moisture, softness and delicacy to the previously dry, scaly, thickened skin, and gave rise to a state of strength, activity and alertness, including a return of partially lost sexual desire. Severe secondary anemia improved rapidly under combined iron and thyroid therapy, while previous iron therapy alone lasting over several months failed.

Mercurochrome in Typhoid and Paratyphoid.—Mercurochrome, given early and judiciously, is regarded by Tyau as being the most efficient remedy for the treatment of typhoid and paratyphoid fevers. The drug should be freshly prepared and given intravenously at three day intervals in 10 cc. doses for mild infections; while in severe cases treatment should be in the dosage of 5 mg. per kilogram of body weight. In mild and uncomplicated cases, the drug offers 100 per cent cure, with shortening of the course of the disease.

Soy Sauce and Beriberi.—Data presented by Horvath show that soy sauce in some way stimulates the development of beriberi in pigeons, because none of the controls developed beriberi within the same period, although one month is usually sufficiently long for the occurrence of the disease. A case in which beriberi appeared strikingly early (in six days) is of particular interest.

Practitioner, London

116: 337-388 (May) 1926

*Late and Early Carcinoma of Breast. G. L. Cheatle.—p. 337.
*Laxatives and Purgatives. C. W. Chapman.—p. 346.
Congenital Hypertrophic Stenosis of Pylorus. B. Hughes.—p. 351.
Respiratory Factor in Postoperative Treatment of Tonsils and Adenoids. J. D. Lickley.—p. 359.
*Endocrine Basis of Pernicious Vomiting in Pregnancy. W. Dickson.—p. 365.
Light and Its Therapeutics. F. H. Humphris.—p. 375.
Counterirritation. E. F. Cyriax.—p. 382.

Cyst and Carcinoma of Breast.—Cheatle advises the removal of every cystic breast because there are small cysts containing dysgenetic epithelial hyperplasia and affecting usually the terminal parts of one duct and its acini, which are exceedingly dangerous. And yet no one can prognosticate cancerous metaplasia or development. Hence, it is better to sacrifice many breasts and save one life than to resort to conservative treatment and miss a single carcinoma.

Laxatives and Purgatives.—Chapman prefers laxatives to purgatives. The most reliable laxative is senna, alone or in combination with sodium tartrate and carminatives. Infusion of senna pods is efficient and harmless. Cascara, with or without small doses of the extracts of nux vomica and belladonna, makes a useful pill in obstinate cases. Castor oil and petroleum are useful laxatives.

Endocrine Basis of Pernicious Vomiting in Pregnancy.—Dickson has found that the use of mammary substance, by mouth, or the extract (10 per cent) hypodermically, even in large doses, is not deleterious, but produces startlingly good results, because of its antagonism to the ovarian function, which in the early stages has not reached a balance under the new conditions. If, in spite of vomiting, a largely enhanced protein diet is insisted on, to the complete exclusion of all stimulants to gastric secretion, which do not "fix" gastric juice, such as meat extracts, dextrinized foods in general, condiments and alcohol, the condition automatically rights itself, if it has not been allowed to advance too far. If the latter condition exists, epinephrine injections will control the vomiting, so allowing the protein diet to be commenced. The simple expedient of taking a glass of milk fifteen minutes before quitting the recumbent position in the early morning, by women in the gravid state, is often sufficient to ward off any vomiting, and may prevent the supersensitiveness of the stomach associated with pregnancy from the sixth to the fourteenth week or, in fact, during any phase of pregnancy. Should the protein diet appear inadequate at the commencement, it will be found due to the lack of perseverance with an all-protein diet, and to the noninterdiction of liquids at meal times. No fluids are allowed at meal times.

Quarterly Journal of Medicine, London

75: 235-410 (April) 1926

Pathologic Variations in Serum Calcium. G. H. Percival and C. P. Stewart.—p. 235.
*Purgative Action of Magnesium Salts. H. Cohen.—p. 249.
Hydrogen-Ion Concentration and Some Other Properties of Blood from Two Cases of Autotoxic Enterogenous Cyanosis. J. Barcroft, H. Dryerre, J. C. Meakins, T. R. Parsons and W. Parsons.—p. 257.
Functional Pathology of Nephritis. E. B. Mayrs.—p. 273.
*Inheritance of Epilepsy. W. R. Brain.—p. 299.
Spasm of Tetany: Disturbance of Physiology of Muscle. J. P. Martin. —p. 311.
Early Accounts of Acholuric Jaundice and Subsequent History of Wilson's Patients. J. M. H. Campbell.—p. 323.
*Heredity in Acholuric Jaundice. J. M. H. Campbell and E. C. Warner. —p. 333.
Congenital Porphyrinuria. L. Mackey and A. E. Garrod.—p. 357.
Id. Associated with Hydroa Vacciniforme and Pigmentation of Teeth. H. T. Ashby.—p. 375.
Id. Associated with Hydroa Vacciniforme and Hirsuties. A. M. H. Gray.—p. 381.
Dextrose Tolerance Curve in Health. R. Hale-White and W. W. Payne. —p. 393.

Purgative Action of Magnesium Salts.—The observations made by Cohen are said to afford direct evidence that the purgative action of magnesium salts is exerted independently of the absorption of magnesium into the blood.

Inheritance of Epilepsy.—In a series of 200 epileptic patients, a family history of the disease has been found by Brain in 28 per cent, as compared with a figure probably under 10 per cent in a control series from a hospital population. The onset of the disease occurs in the first decade of life in a larger proportion of those with a family history of epilepsy than of those without such a history. There was a history of early convulsions in 28 per cent of 176 epileptic persons. Early convulsions were almost twice as common in epileptic persons with a family history of the disease as in those with none. Epileptic patients have been found to transmit the disease to about one in twenty of their offspring, but considering the probable error of the small numbers, little stress can be laid on this proportion. The proportion of first-born among epileptic persons is twice as high, and of second-born children half as high again, as in the section of the population from which the patients were drawn. It is suggested that the increased liability of first-born children to receive cerebral injury at birth is a factor likely to be responsible for the increased proportion of first-born among epileptic persons. The incidence of insanity among the relatives was found to be no higher than in the general population. The facts are held to indicate that a predisposition, which in at least 28 per cent of cases is inherited, is an etiologic factor in epilepsy.

Heredity in Acholuric Jaundice.—Campbell and Warner report on a family with a history of acholuric jaundice in five generations. The abnormal fragility of the red cells may occur without the other signs and symptoms of acholuric jaundice, both in ordinary cases after splenectomy and in latent cases. When due allowance is made for these, acholuric jaundice is inherited as a dominant mendelian character.

Archives des Maladies de l'App. Digestif, Paris

16: 393-512 (April) 1926

Mineral Balance in the Healthy and Diabetic. M. Labbé et al.—p. 393.
*Gastric and Pancreatic Achylia. A. Landau et al.—p. 409.
*Insulin in Fattening Treatment. F. Moutier.—p. 422.

Syndrome of Gastric plus Pancreatic Achylia.—In Landau, Cygielstrejch and Fejgin's four cases, gastric achylia was associated with pancreatic achylia; four others presented either gastric or pancreatic achylia. The absence of both gastric and pancreatic ferments was found in patients with pernicious anemia. Their data suggest that some still unknown factor may induce certain changes in the hematopoietic organs, influencing simultaneously the blood, the gastric mucosa and the pancreas tissue.

The Use of Insulin in Emaciation.—Moutier applied insulin in treatment of twenty-three abnormally thin persons, the leanness essential or acquired. The treatment failed in six; the results were good in nine. The gain of weight was from 0.5 to 1 Kg. in one week, to 4 or 7 Kg. in three months. The age of the patients ranged from 18 to 45. A dose of 5 units was injected twice a day before meals, for two weeks; then the dose was increased to 20, sometimes 30 units a day. The meals contained carbohydrates, in a proportion of 30 Gm. for 10 units of insulin. This was advantageously supplemented by keeping the patient systematically in bed. Small doses of insulin were continued for a long time.

Archives Franco-Belges de Chirurgie, Brussels

29: 1-80 (Jan.) 1926

Rickets with Osteoporosis. Grynfeltt and M. van Neck.—p. 1.
*Bone-Periosteum Implants in Pott's Disease. H. and Y. Delageniere.—p. 21.
Reconstruction of a Fractured Bone in Children. A. Marique.—p. 38.

Bone-Periosteum Implants in Pott's Disease.—The Delagenieres employed their method in three adults with tuberculous spondylitis. The induced ankylosis of the posterior vertebral arches soon restored the earning capacity. Paraplegia, cold abscess, excessive pain are indications for such interventions. Their bone-periosteum technic has the advantage over the Albee method that solid bone develops, reenforcing the spine.

Comptes Rendus de la Société de Biologie, Paris

94: 553-632 (March 12) 1926. Partial Index

Quantitative Test for Acetone. P. Fleury and I. J. Awad.—p. 570.
Gold Treatment of Syphilis. L. Fournier and P. Mollaret.—p. 576.
*Influence of Medulla on Glycemia. A. Tournade et al.—p. 582.
Postoperative Ketosis. M. Labbé and M. Chevki.—p. 590.
Postoperative Acidosis. M. Labbé and M. Chevki.—p. 591.
*Staphylococcus Vaccine in Typhoid. V. Bie.—p. 602.
*Experimental Pernicious Anemia. A. Nyfeldt.—p. 608.
*Foot and Mouth Disease Spread by Human Carriers. C. Kling and A. Höjer.—p. 618.
The Reticulo-Endothelial Tissue in Disease. E. Darzine.—p. 623.
*Heredity of Dupuytren's Contraction. G. Sprogis.—p. 631.

Hypoglycemia from Cocainization of the Medulla Oblongata.—Tournade and his co-workers introduced cocaine into the medulla oblongata of twelve dogs. This was followed by a decrease in the sugar content of the blood in all the animals. The experiment confirms that the medulla regulates the glycemia balance.

Staphylococcus Vaccine in Treatment of Typhoid.—Bie applied staphylococcus vaccine in fifty-one patients with grave paratyphoid fever. In thirty-nine, the results were good; in four, uncertain; in eight, negative. None of them died. The results were good in thirty-five of fifty-four cases of typhoid fever; dubious in three, negative in nine. Seven patients died. The vaccine did not influence associated pneumonia. It appeared that with the staphylococcus vaccine the course of the disease was shortened, and the death rate was correspondingly reduced.

Experimental Pernicious Anemia.—Nyfeldt induced pernicious anemia in seven of sixteen rabbits by injecting them intravenously with autolysates of various bacteria. The blood picture and histologic lesions were identical with those in pernicious anemia in man.

Spread of Foot and Mouth Disease in Cattle by Human Carriers of the Infection.—Kling and Höjer present evidence which apparently demonstrates that healthy human carriers of the infection or persons with the latent infection are responsible for the spread of this cattle disease. In 1924, the epizootic spread alarmingly in Sweden; by May, 1925, more than 4,000 herds had been infected, and the epizootic is not yet extinct. Their intensive and prolonged research has confirmed that the human carrier can harbor the virus for up to two months, and that the majority of human carriers acquire the virus from milk or from a human carrier. The virus on bare skin and clothing soon loses its virulence. Even in the vesicles, the virulence is lost in two or three days, but on human mucous membranes it may be long retained. In four of seven typical cases of foot and mouth disease in man, the serum displayed specific antibody action. Kling and Höjer established that a few human carriers in a populous center may be sources of infection for the surrounding country. The virus evidently becomes attenuated by passage from carrier to carrier. On the other hand, an intercurrent infection (influenza) or intoxication may rouse the latent virus to virulence.

Heredity of Dupuytren's Contraction.—Sprogis observed Dupuytren's contraction in seventeen of fifty-three persons, representing three generations of a family. Among them were only two women. Recurrences were frequent; the sclerosing process involved, besides the palmar fascia, also the digital nerves, connective tissue and skin.

Paris Médical

59: 461-488 (May 15) 1926

Cholecystectomy in Treatment of Gallstones. P. Mathieu.—p. 461.
Gaucher's Disease. P. Emile-Weil and P. Chevallier.—p. 463.
Insulin Treatment of Wasting Diabetes. J. Castaigne.—p. 473.
*Cancer of the Pancreas. P. Carnot and E. Libert.—p. 479.
*Tests for Bilirubin in the Urine. M. Garnier and H. Giroire.—p. 483.
Lambliasis of Duodenum or Gallbladder? Carnot and Gaehlinger.—p. 485.

Cancer of the Pancreas.—In Carnot and Libert's patient, aged 63, the affection developed in three stages; mild pain and dyspeptic disturbances occurred at the onset. The second stage presented an intensive and rebellious diarrhea. It was the predominant phenomenon, possibly due to lack of the inhibiting pancreatic ferments. Jaundice and cachexia appeared in the final stage. Necropsy revealed a canalicular cancer of the pancreas body, invading the pancreatic and the common bile ducts.

Tests for Bilirubin in the Urine.—Garnier and Giroire found by comparative research that the Grimbert test (barium chloride) appears to be tenfold more sensitive than the Gmelin test in detection of bilirubin in the urine. Certain urines did not respond with a positive Gmelin test even after bile had been added. A negative Gmelin test consequently does not testify to the absence of this bile pigment from the urine.

Presse Médicale, Paris

34: 593-608 (May 12) 1926

*Goiter and Mitral Insufficiency. M. Loeper and A. Mougeot.—p. 593.
*Thyroid and Peptone Shock. L. Garrelon and D. Santenoise.—p. 594.
Surgical Treatment of Mitral Stenosis. J. Sénèque.—p. 597.
Organization of Medical Department of Roumanian Army. Potarca and Dimitriu.—p. 603.

Goiter and Functional Mitral Insufficiency.—Loeper and Mougeot describe three of their five cases of mitral insufficiency in which symptoms of decompensation appeared simultaneously with enlargement of the thyroid. In three other cases, on the contrary, the goiter had preceded the dilatation of the left heart and mitral insufficiency. The heart phenomena may be explained mainly by compression of the right vagus and mechanical stimulation of the heart depressors by the encroaching enlargement of the thyroid. Compression of the vessels in the neck, especially of the carotid, is a further cooperating factor.

The Thyroid and Peptone Shock.—Garrelon and Santenoise conclude from their experiments on twenty dogs that the vagus seems able to stimulate the secretion of a thyroid substance which enhances the susceptibility of the organism to peptone shock.

84: 609-624 (May 15) 1926

*Pathologic Hatred in Families. H. Claude and G. Robin.—p. 609.
*Forms of Staphylococcemia. P. George and H. Giroire.—p. 611.
Differences in Potential as Affecting Biology. J. L. Pech.—p. 619.

Morbid Family Hatreds.—Claude and Robin discuss the medical aspect of this question, emphasizing the necessity for bearing in mind that the family environment is the reagent *par excellence* for the candidates for neuroses and psychoses at all ages of life.

Two Forms of Staphylococcus Septicemia.—George and Giroire specify two peculiar forms of staphylococcus septicemia, with a fatal issue in a few days. One presents a skin syndrome entailed by an infectious mitral endocarditis. This induces the formation of peripheral sloughing emboli, as well as embolism in the viscera. The origin of this staphylococcemia is seldom recognized. The other form, resembling erysipelas, is characterized by a patch of cyanosis over half of the face, covered with pustules. It usually follows a furuncle of the face. Necropsy shows numerous miliary abscesses scattered in the parenchyma of various organs, especially of the lungs and kidneys. Therapeutic measures, including vaccine, have all failed to date. They report the details of a case of each type.

Schweizerische medizinische Wochenschrift, Basel

56: 389-412 (May 1) 1926

Visualization of Bronchiectasis. R. Staehelin.—p. 389.
*Malaria Treatment of General Paralysis. O. Pfister.—p. 391.
*Sterility of the Emperor Augustus. L. Naegeli-Schubiger.—p. 393.

Malaria Treatment of General Paralysis.—Pfister confirms from Bleuler's clinic the good results of malaria treatment of general paralysis. Four of the thirty-six patients thus treated died, but only three of them from malaria. One of these had developed blackwater fever.

Sterility of the Emperor Augustus.—Naegeli-Schubiger asks why Augustus had no children except Julia (in his twenty-fifth year). It seems that he had not even illegitimate children in his numerous liaisons which he enjoyed while requiring exceptional moral purity from the court. The emperor was unable to ride a horse in his thirtieth year. It is probable that he had a gonorrhea with epididymitis. These diseases used to be kept as secret among the Romans as now.

56: 413-436 (May 8) 1926

*Senile Glaucoma. A. Vogt.—p. 413.
*Management of Placental Period. M. Wuhrmann.—p. 415.
Suture of Aneurysm. G. Streit.—p. 422.
Insulin in Treatment of Emaciation. H. Bodmer.—p. 423.
Pure Milk Diet. W. Eberding.—p. 424.

Senile Glaucoma.—Vogt observed with the slit lamp in some cases of chronic senile glaucoma a fine feltlike structure in the region of the pigmented edge of the pupil. He attributes it to a desquamation of the anterior part of the lens capsule. He is convinced that this is the direct or indirect cause of this type of glaucoma.

Management of Placental Period.—Wuhrmann's statistics on 500 cases of routine use of the Gabastou method of injection of a fluid into the placenta show that it has many disadvantages over expectant treatment. The duration of the third stage of labor as well as the amount of hemorrhage were increased. It should be applied as a routine procedure only in women in whom the expulsion of the placenta in previous pregnancies had not proceeded normally. Retention of the placenta remains, however, an indication for application of this method.

Brazil-Medico, Rio de Janeiro

1: 141-156 (March 13) 1926

*Modern Surgery. Americo Vallerio.—p. 141.
Recent French Medical Literature. Desaux and Trolard.—p. 150.

Modern Surgery.—In this review of the artistry, the responsibility and the lights and shadows of the surgeon's life, Vallerio expatiates on the great future of physiologic surgery, and lauds Jonnesco, Leriche and Sauerbruch as the three high priests in this field. He credits Sir James Mackenzie's teachings with much of the progress of surgery in this century, but adds that *megalomania operatoria* has not been entirely eradicated. "It is worse than a crime, it is a blunder." He specifies Wertheim and Franz as having "forced the bistoury in too many cases between 1911 and 1913, with later prudence and remorse." F. Krause and Arbuthnot Lane, likewise, had to retrace their steps. The progress of surgery has abolished the terms "idiopathic," "essential" and "spontaneous" as the previously unsuspected spina bifida or other cause has been revealed. Brazil lacks the equipment for cooperative scientific constructive research by clinicians, surgeons, biologists and pathologists in a single institution, such as has been realized in North America (with 600 dogs at the disposal of the workers). Brazil is abreast with the best in respect to the spirit of observation, the manual skill and logical thinking of its leading surgeons. Physiologic surgery is opening up new possibilities for treatment and for prevention of valvular and lymphatic disease, etc. Periarterial sympathectomy needs to be studied from this standpoint instead of empirically.

Semana Médica, Buenos Aires

1: 585-636 (March 25) 1926

*Perianal Granuloma. A. A. Fernández.—p. 585.
*Prevention of Perineal Tears. L. G. Gret.—p. 600.
Pithiatic Nature of Nervous Phenomena on Puncture of the Pleura at Artificial Pneumothorax. M. Pozza.—p. 604.
*Ossification of the Eye. J. Lijó Pavia.—p. 606.
Tuberculosis of Uterine Cervix. A. J. Pavlovsky.—p. 611.
*Solitary Neoplasm in the Lung. M. Garcia Faure.—p. 617.
Welfare Work for Children. M. V. Carbonell.—p. 622.
Retroceal Appendicular Phlegmon. J. G. Ruiz.—p. 625.
Endemic Malaria in Europe. G. Pittaluga.—p. 626.
Professional Guidance for College Graduates.—p. 629.
Relations Between Postencephalitic Conjugate Deviation of the Eyeballs and Hysteric Contracture. G. Marinesco.—p. 630.
Venous Pressure with Pulmonary Tuberculosis. Villaret and Martiny.—p. 632.

Perianal Granuloma.—Fernández found inclusions in and between the cells which seemed to be chlamydozoa, and with them he reproduced an ulcerating lesion in guinea-pigs. The affection in the young man was of two years' standing, but was cured at once by neo-arsphenamine treatment.

Prevention of Laceration of the Perineum at Childbirth.—Gret ascribes the lack of perineal tears in his obstetric practice to his care to prevent venous stasis in the region and to his training of the rectum to avert reflexes therefrom. He accomplishes this by keeping the woman after the seventh month on Mendez' colitis diet, and giving small enemas of oil, with laudanum, every third or fourth night and daily during the last nine or ten days. By this suppression of reflex action, and lack of venous stasis, the woman approaches delivery so well prepared that dilatation occurs almost without pain. He describes ten cases in detail to show the excellent results even in primiparas.

Ossification of the Eye.—Lijó Pavia has been able to find only two cases on record resembling the one he describes in which a traumatic injury of the eye was followed by ossification. In his case the injury had been a sensation as if an insect had crept under the lid. Four years later the enucleated eye showed not only formation of bone tissue but also of nerve tissue (glia).

Cancer of the Lung.—Two cases were encountered in Córdoba in the five years 1914-1919 and ten in the five years following. In two cases an inherited tendency was manifest. The lung cancers formed 9.7 per cent of the eighty-two cases of chronic lung disease that came to necropsy.

1: 637-688 (April 1) 1926

*Pulmonary Echinococcosis. J. J. Viton and J. A. Cruciani.—p. 637.
*Color Reaction Test for Aldehydes. J. A. Sánchez.—p. 640.
Serous Tenonitis. J. Lijó Pavia.—p. 642.
Reiteration of Scarlet Fever. Ramón Cucullu and A. J. Grosso.—p. 648.
Llama Immune Serum in Treatment of Syphilis. E. Pierangeli.—p. 654.
*Sterility in Women and the Rubin Test. J. C. Berri.—p. 657.
Treatment of Perforation and Cleft in the Palate. Crespi.—p. 666.
Sanocrysin in Treatment of Leprosy. J. J. Puente and Pierini.—p. 683.
Paris Green as a Mosquito Larvicide. L. W. Hackett.—p. 684.

Pneumothorax in Treatment of Suppurating Echinococcus Cysts in Lungs.—Viton and Cruciani report complete success from artificial pneumothorax in treatment of a patient with two hydatid cysts in the same lung, one of which had discharged with a vomica. The compression from the pneumothorax suppresses the intense toxic infectious focus, and in

the case described, there was a gain of 8 Kg. in weight by the tenth insufflation. The pneumothorax also facilitates roentgenoscopic differentiation.

Piperazine Test for Aldehydes and Lactic Acid.—Sánchez expatiates on the ease and simplicity of the test for various aldehydes, lactic acid and the oxy-ethyl group with a reagent consisting of a solution of 0.5 Gm. of piperazine in 10 cc. of a 1 per cent solution of sodium nitroprussiate. The tint changes to indigo blue with a positive reaction.

Pertubation in Sterility.—Berri comments on the widespread application of the Rubin test in Argentina, and states that it has been often applied in his service in the last four years, with Rubin's technic. With impermeable tubes, he repeats the test two or three times, sometimes finding the previously impermeable tube freely patent at the later test. One woman with dysmenorrhea and impermeable tubes at the first test was found clinically normal later; the dysmenorrhea disappeared on repetition of the pertubation.

Deutsches Archiv für klinische Medizin, Leipzig

151: 1-128 (April) 1926

*Pathology of Apoplexy. K. Westphal and R. Bär.—p. 1.
*Apoplexy from Clinical Standpoint. K. Westphal.—p. 31.
*Experimental Research on Apoplexy. K. Westphal.—p. 96.
Blood Diastase. Von Strasser.—p. 110.

Pathology of Apoplexy.—Westphal and Bär confirm on sixteen cases of apoplexy (mostly from hemorrhage), Löwenfeldt's and Rosenblath's findings. All the blood vessels (arteries, capillaries and veins) of the hemorrhagic focus present lesions amounting sometimes to complete necrosis. The bleeding occurs from all the vessels. They do not regard miliary aneurysms as the cause of the hemorrhage. A simple bursting of a vessel does not explain the changes. They believe that a sudden angiospastic or arteriosclerotic local anemia is primarily responsible. The restitution of the flow in the artery entails the hemorrhage.

Apoplexy from Clinical Standpoint.—Westphal shows that paroxysms of higher blood pressure are coincident with hemorrhages of the brain even in subjects with a comparatively low blood pressure. He believes that cholesteremia sensitizes the arteries to spastic stimuli. Experiments on animals with anemia of the brain did not furnish enough explanation except for certain lesions of the blood vessels and diapedesis of erythrocytes. The changes in the blood vessels were more intense in the brain of a young woman who had been temporarily revived after a standstill of the heart and respiration lasting for fifteen minutes.

Deutsche medizinische Wochenschrift, Berlin

52: 777-818 (May 7) 1926

Management of Operating Room. Kappis.—p. 777. C'td.
*Treatment of General Paralysis. W. Sagel.—p. 778.
Allergic Diseases. W. Misch.—p. 781.
Insulin and Phagocytosis. G. Bayer and O. Form.—p. 784.
*Sugar in Cerebrospinal Fluid. K. Hellmuth.—p. 785.
Inapparent Experimental Syphilis. W. Worms.—p. 785.
*Nails and Endocrines. J. Heller.—p. 786.
*Residual Nitrogen. A. Kowarski.—p. 790.
Meinicke Test. F. Matzdorff.—p. 791.
Multiple Skin Metastases. J. Severin.—p. 792.
Auscultation of Joints. S. Tannhauser.—p. 793.
Tubercles of Choroid. J. Gehrt.—p. 794.
Artificial Sphincter Ani. J. Izquierdo.—p. 795.
*Iodine in Hyperhidrosis. M. Andruszewski.—p. 795.
Climacteric Disturbances. O. Wieden.—p. 796.
Electric Pads. Rosenburg. Comment. Alvensleben.—p. 796.
Weninger's Tuberculosis Treatment. H. Grau.—p. 797.
Gallstones and Sex Organs. B. Molnár, Jr.—p. 798.
Social Hygiene in Population Policy. E. G. Dresel.—p. 799.
Hygiene in Jugoslavia. C. M. Hasselmann.—p. 801. C'cn.
Scandinavian Literature in 1925. H. Scholz.—p. 812. C'cn.
Italian Literature in 1925. H. Jastrowitz.—p. 813.

Treatment of General Paralysis.—Sagel inoculated paralysis patients with living cultures of spirochetes. He used the method only in those patients who had not been improved by inoculation with relapsing fever. He finds that the spirochetes had a favorable influence. Only slight local reactions were observed.

Sugar in Cerebrospinal Fluid.—Hellmuth found no increase of dextrose in the cerebrospinal fluid in pregnancy nor in women with uterine myomas.

Nails and Endocrines.—Heller examined the nails in 562 patients with various grave endocrine diseases. He admits the possibility of endocrine disturbances in the nails in six or eight of these patients. He concludes that most of the reported changes of the nails are not existent or are in no relation to the endocrines. For instance, he found the trichophyton in the nails of a patient demonstrated as a case of abnormal fragility of the nails due to ovarian disturbance. He is also skeptical as to the whole of endocrine therapy in skin disease. The only improvement he obtained with it in psoriasis was in a little girl to whom he gave prostate tablets, because he happened to be out of thyroid tablets.

Residual Nitrogen.—Kowarski describes a simple method for determination of the residual nitrogen of the blood or the total nitrogen of the urine by direct nesslerization. He avoids the irritating vapors of the boiling sulphuric acid by conducting them through a tube into a concentrated solution of sodium hydroxide. The end of the tube is slanting and only two thirds of it are immersed, since the surface of the solution absorbs the gases sufficiently.

Iodine in Hyperhidrosis.—Andruszewski recommends an old treatment for hyperhidrosis: After a warm bath and a careful drying, he applies tincture of iodine to the feet and smears over it an ointment made with boracic acid 10 parts; glycerol 10; wax 20; liquid paraffin 20, and soft petrolatum, 50 parts. The procedure may be repeated after ten to twenty days. After this the ointment alone is used once a week.

Medizinische Klinik, Berlin

22: 715-754 (May 7) 1926

*Children's Food. E. Müller.—p. 715.
Conservative Gynecology. W. Benthin.—p. 719.
Pyloric Stenosis from Malformation. J. Schnitzler.—p. 723.
Autohemotherapy of Polyarthritis. A. Sorter.—p. 725.
Coins in Esophagus. C. Springer.—p. 728.
*Rupture of Extensor Pollicis After Injury. F. Honigmann.—p. 728.
Gonococcus Sepsis. H. Deicher and A. Lechner.—p. 731.
Chemotherapy of Syphilis. H. Grossmann.—p. 734.
Recent Works on Cardiovascular Disease. E. Edens.—p. 740.
Clothing Hygiene. E. Wiener.—p. 753.

Children's Food.—Müller would abolish the conception of vitamins and substitute for it a few other hypotheses, especially that of an optimum molecular condition of the substances, analogous to the different forms of active and inactive iron and Liebig's law of the minimum. He also points to a close relation between the mineral metabolism and avitaminoses.

Rupture of Extensor Pollicis After Injury.—Honigmann's patient fell on her left hand. Two months later she noticed suddenly that she was unable to flex her thumb. This was due to a rupture of the tendon of the extensor pollicis longus at the distal edge of the transverse carpal ligament.

Monatsschrift für Geb. und Gynäkologie, Berlin

73: 1-128 (April) 1926

*Pregnancy After Implantation of Tube. F. Unterberger.—p. 1.
*Long Interval in Twin Abortion. G. H. Schneider.—p. 5.
Air Test of Placenta. H. Franken.—p. 11.
Placenta Praevia. P. W. Siegel.—p. 18.
Noninfected Abortions. M. Gerstmann.—p. 29.
Cesarean Section. H. v. Broich.—p. 32.
Total Extirpation in Transverse Presentation. W. Odenthal.—p. 40.
"Forceps on Breech." B. v. Váró.—p. 46.
Rupture of Uterus in Perforation Scar. W. Vogel.—p. 51.
Injuries of Uterus. W. Reiprich.—p. 55.
Time of Conception. K. Volkmann.—p. 58.
*Serum Structure and Menstruation. H. Eufinger and M. Goldner.—p. 62.
*Treatment of Gynatresia. H. Naujoks.—p. 68.
Intraabdominal Hernia. K. Hennig.—p. 74.
Tubo-Ovarian Pregnancy. J. Batisweiler.—p. 77.
Chocolate Cysts. F. Pischzek and P. Schmidt.—p. 83.
*Industrial Occupation and Pregnancy. E. Martin.—p. 89.

Pregnancy After Implantation of Tubes.—Unterberger reports normal conception and labor in a woman, aged 36, who had had impermeable tubes. He implanted them into the uterus.

Long Interval in Twin Abortion.—The second twin in Schneider's case was aborted two months after the first. The woman had felt well in the meantime.

Serum Structure and Menstruation.—Eufinger and Goldner found that the percentage of globulins in the serum increases

during menstruation (sometimes twofold), while the albumin decreases.

Treatment of Gynatresia.—Naujoks recommends vaginal procedure only in those cases of atresia which are not complicated by hematosalpinx. Fatal peritonitis resulted from the vaginal operation in both cases of the latter group thus treated at the Königsberg clinic.

Industrial Occupation and Pregnancy.—Martin has been retained by the textile factory employers to criticize a pending bill prohibiting the work of women in the last three months of pregnancy. He believes that the household duties are more strenuous than the work in the factory. The female organism is capable of coping with the former, and he refuses to consider factory work as injurious unless it is heavier. He says that if the factory work is too heavy, a man is ordered to help, which is an advantage over the household. Some of the factory work is done with the upper part of the body lying on a table; yet he thinks that the fetus is sufficiently protected by the amniotic fluid against any pressure. He admits that the work may entail some strain, but replies to this that a rest can also become quite an exertion. Mortality statistics with differences of 30 per cent in favor of housework may not mean much, according to him. If the blood circulation in the lower extremities is impaired, and a varicose tendency increased by standing, he wonders why it is not impaired during sleep, when the pillow holds the head higher. He agrees with his employers that the working women are sufficiently protected.

Münchener medizinische Wochenschrift, Munich

73: 765-808 (May 7) 1926

Idiocy and Imbecility. W. Weygandt.—p. 765.
*Local Application of Chamomile. W. Arnold.—p. 767.
*Visceral Tuberculosis and the Skin. R. Wigand.—p. 769.
Quantitative Microtest for Dextrose. E. Kaufmann.—p. 771.
The Mastic-Protein Quotient. G. Wüllenweber.—p. 772.
Serologic Tests in Syphilitic Milk. P. Hackemann.—p. 773.
*Food Poisoning and Paratyphoid. M. Müller.—p. 774.
Paratyphoid from Horse Meat. Harms zum Spreckel.—p. 777.
*The Blood in Mexico. H. Eggers.—p. 779.
Goiter in East Asia. G. Köhler.—p. 781.
*Thoughts on Medicine. A. Bier.—p. 782. C'cn.
Balneotherapy and Climatotherapy. H. Weskott.—p. 788.

Local Application of Chamomile.—Arnold produced inflammation of the skin with mustard oil, light and tuberculin. These reactions could be inhibited by local application of an infusion of 5 Gm. of chamomile flowers in 100 Gm. of water. The ethereal oils seem to be the active substance.

Visceral Tuberculosis and the Skin.—Wigand found baldness only in 5 per cent of about 200 tuberculous men, and in these it had usually developed before the tuberculosis. The percentage of baldness is even lower than that of musicians (10 per cent). The average in healthy men after the third decade is 20 per cent; the maximum (in intellectual groups) 40 per cent. The poorer classes and bolshevists have plenty of hair. The other hairs of the body also grow well in the tuberculous, especially the eyelashes. Hair on the extremities is more common in tuberculous than in healthy women. Tuberculosis of the skin is rare in persons with tuberculosis of internal organs.

Food Poisoning and Paratyphoid.—Since the etiology of food ("ptomaine") poisoning is now cleared up, Müller suggests to avoid the term. Most of it is due to paratyphoid and other bacteremias of the slaughtered animals. Part of it is due to contamination of the meat by the same group or other microbes, such as the botulinum.

The Blood in Mexico.—Eggers found a high percentage of hemoglobin (115 in men, 97 in women) and of the number of erythrocytes (7,351 millions in men and 7,149 in women) in Mexico City (altitude, 2,250 meters). The number of leukocytes is low.

Thoughts on Medicine.—Bier returns to the 145 year old irritation theory which had been proposed by J. Brown, and unites it with the Hippocratic principle of the self-help of the organism. He believes that mathematics have completely failed in medicine except in the figuring of refraction anomalies—and even in this, they furnish only a substitution treatment. The mechanics of joints play no rôle at all. Joints resected without any regard to theoretical conceptions frequently give fine results. The outcome is still better if no surgical intervention interferes with the healing.

Wiener klinische Wochenschrift, Vienna

39: 521-560 (May 6) 1926

*Callous Ulcer of the Rectum. J. Hochenegg.—p 522.
*Traumatic Degeneration in the Spinal Cord. H. Steindl.—p. 524.
*Noma and Its Treatment. F. Kaspar.—p. 528.
*Ramicectomy. F. Mandl.—p. 531.
A Multilocular Cyst of the Kidney. K. Haslinger.—p. 534.
*Phlegmonous Gastritis. F. Stöhr.—p. 535.
*A Case of Lipoma of the Stomach. W. Spitzmüller.—p. 538.
*Compensatory Closure of the Esophagus. J. Palugyay.—p. 540.
*So-Called "Bleeding Nipple." E. Risak.—p. 544.
Toxic Action of Hypertonic Solutions. F. Fuchs.—p. 546.
Carcinoma of the Rectum. C. Ewald. Supplement.—pp. 1-20.

Ulcer of the Rectum.—Hochenegg reports five patients operated on by colostomy for supposed carcinoma of the rectum, who became completely well. In one the colostomy dates back twenty-one years. Digital and rectoscopic examination showed entire disappearance of the lesions. In two the artificial anus was thereupon closed. Hochenegg designates the lesion present in these cases callous ulcer of the rectum, and holds it to be an inflammatory swelling analogous to callous ulcer of the stomach. Differential diagnosis from carcinoma is impossible except by biopsy, which is itself unreliable in rectal tumor. He therefore performs colostomy in all doubtful cases and reexamines the patient after a few months. The favorable influence of the permanent artificial anus on callous ulcer is explained by removal of the irritation kept up by fecal masses accumulated above the stenosis and pressing through it. The five cases here reported were found among 511 colostomies.

The Question of Traumatic Degenerative Changes in the Spinal Cord.—Steindl reports a case of lesion of the spinal cord caused by a fall in a man, aged 27. Death took place four or five months after the injury. Microscopic examination of sections of the cord showed in the cervical segment areas of destruction of the nervous elements, and in the thoracic and lumbar segments extensive changes in the descending tracts; few nerve fiber strands stained normally in either the ascending or descending tracts. The glia was unchanged; there were no signs of earlier hemorrhage. Concussion of the spinal cord, injuring only the more delicate elements, was probably the cause.

Noma and Its Treatment.—Kaspar used locally a solution of copper sulphate with astonishing success in an advanced case of noma of the face in a woman, aged 62.

The Surgical Destruction of the Rami Communicantes in Gastric Crises of Tabetics.—Mandl reports six cases, and believes this operation to be a success. He operates, when possible, on both sides at one sitting and prefers local anesthesia. He extirpates the rami communicantes, drawing out with them the sympathetic plexuses. Atony of the stomach does not follow the operation. The motor type of crises seems the most promising for this treatment.

Phlegmonous Gastritis.—Stöhr reports that there have been two cases of this rare condition in Hochenegg's clinic in the last twenty years. Both patients were women, the first 40, the second 74 years old. In the first the esophagus as well as the stomach (pyloric portion) was involved and, from the sites of the lesions, a traumatic origin, from swallowing a foreign body, seems probable. In the second a needle was found at necropsy penetrating the stomach wall. Operation was unavailing in these cases, but recent literature shows some successes in the surgical treatment of this grave condition.

Lipoma of the Stomach.—Spitzmüller reports a case of submucous lipoma of the stomach, 20 cm. long, 27 cm. in circumference, more than three times the size of the largest hitherto reported. The tumor had been palpable and the patient had suffered from pain, increasing in severity, for the past six months. After resection of the stomach, two ulcers were found in the mucous membrane overlying the tumor.

Compensatory Closure of Esophagus in Dysfunction of the Cardia.—Palugyay observed spasm of the esophagus accompanying lessened contractile power of the cardia. In one case the dysfunction of the cardia was from early carcinoma, in another from surgical intervention. He believes the esophageal spasm to be a reflex of compensatory nature.

The So-Called "Bleeding Nipple."—Risak reports two cases, one in a man, of occasional discharge from the nipple proceeding from papilloma of a milk duct. In the woman, the discharge began shortly before the onset of menstruation and became tinged with blood.

Zeitschrift für Urologie, Leipzig

20: 241-320, 1926

*Gonorrheal Cowperitis. I. F. Schischow and N. A. Smirnow.—p. 241.
Suture of Vas Deferens. E. Gohrbandt.—p. 247.
*Aspirator Extirpation of Vesical Papillomas. R. Born.—p. 250.
Development of Urology Since 1906. A. Rothschild.—p. 255.
Vesical Calculi in Diverticula. K. Lion.—p. 263.
Causes of Inertia of the Ureter. D. Wedenski.—p. 275.
Solid Tumors of Epididymis. S. Rubaschow.—p. 290.
Asepsis in Bladder Interventions. Vogel.—p. 297.

Chronic Gonorrheal Inflammation of Cowper's Glands.—This communication from Moscow states that cowperitis was found in 12.2 per cent of 200 cases of chronic gonorrhea. It is evidently one of the main causes of the refractory nature of gonorrhea. The inflammatory process in the glands can be detected by combined palpation through rectum and perineum. Perutz' method of provocation with pilocarpine in the anterior urethra may aid in the diagnosis.

Extirpation of Bladder Papillomas by Aspiration.—Born crushed some calculi in the bladder and evacuated the fragments with an aspirator. To his surprise, he found fragments of a previously diagnosed large papilloma among the débris thus evacuated. He then applied the evacuating catheter directly to the papilloma, and aspirated until no further scraps could be obtained. The bleeding was slight. A few days later he obliterated the stump of the tumor with electrocoagulation. In a second case the aspirator was applied to the papilloma at once, and only one minute was required for its evacuation in small scraps. The fluid in the bladder was only slightly tinged with pink, and the man started the same day on a business trip. The stump was cauterized a week later.

Zentralblatt für Chirurgie, Leipzig

53: 1105-1168 (May 1) 1926

*Ligation of External Carotid Artery. H. Herfarth.—p. 1106.
*Biologic Treatment of Peritonitis. F. Kuhn.—p. 1108.
*Periarterial Sympathectomy with Tubulization. M. Saidmann.—p. 1112.
*Anomaly of Position of the Appendix. H. Köhler.—p. 1115.
*Hydronephrosis of Half of Double Kidney. A. Hübner.—p. 1117.
A Case of Hermaphroditism. E. Birt.—p. 1121.
Juxtavesical Incarcerated Hernia. N. Belu.—p. 1124.
"New Points of View in Arthroplasty." S. Kotmann.—p. 1125.

Preliminary Ligation of the External Carotid Artery.—Herfarth calls attention to the danger of thrombosis and secondary embolism following ligation of the external carotid artery. Although this complication is rare and should not constitute a contraindication in serious cases, it should be borne in mind in judging the indications for the procedure. As a precautionary measure against danger from the small "physiological thrombus" at the site of ligation, he recommends placing the ligature as far as possible distal to the point where the superior thyroid artery branches off.

The Biologic Treatment of Diffuse Suppurative Peritonitis.—Kuhn advocates the use of sugar syrup in the toilet of the abdominal cavity in suppurative peritonitis. It encourages secretion, checks the activity and the formation of alkaline toxins, and opposes the forming of adhesions. The abdominal cavity should be completely filled with the syrup, and large drains should be inserted to take care of the abundant secretion which will ensue.

Periarterial Sympathectomy with Tubulization.—Saidmann enveloped the sympathectomized arteries of dogs with segments of vein as a measure to guard against hemorrhage from the weakened arterial wall. The operation was successful in all his eighteen experiments. The tubulization effected immediate cessation of bleeding in those experiments in which he purposely punctured the vein. The death from hemorrhage fifteen days after operation of a dog sympathectomized on the femoral artery, without tubulization, showed that removal of the adventitia is not an operation without danger; in this instance, both accidental perforation and infection could be ruled out.

A Rare Anomaly of Position of the Appendix.—In operation on a case of appendicitis, Köhler found the vermiform appendix proceeding from the ileum 2 cm. behind Bauhin's valve. A very few such cases are recorded. Köhler suggests that a developmental disturbance by which the pouch from which the cecum and appendix develop became displaced from the anterior to the posterior limb of the embryonic middle intestine could explain the position of the appendix behind Bauhin's valve.

Hydronephrosis of One Half of a Double Kidney—Hübner reports a case of infected hydronephrosis in the upper half of a double kidney situated on the right side in an 11 year old boy. On excision, the kidney was found to have two distinct pelves with separate ureters; the ureter belonging to the upper half was obliterated. Cystoscopy had revealed but two ureteral openings. Diagnosis of duplication of pelvis and ureter is not easily made; excision of the entire organ in such a case is preferable to resection of the diseased half.

Zentralblatt für Gynäkologie, Leipzig

50: 1105-1168 (April 24) 1926

Sacral Sarcoma in Pregnancy. L. Lederer.—p. 1106.
Gwathmey's Synergistic Analgesia. A. Ecke and R. Taubert.—p. 1111.
*Morphine in Labor. O. Aufermann.—p. 1124.
*Anesthesia in Abortion. P. Gellert.—p. 1127.
Provocation of Labor. F. Stähler.—p. 1130.
Hemorrhage with Insertio Velamentosa. G. Frommolt.—p. 1131.
Rupture of Uterus in Fourth Month. P. Schugt.—p. 1135.
Surgery of Prolapse and Retroflexion. G. Halter.—p. 1141.
*Extra-Uterine Pregnancy. W. Liebe.—p. 1150.
Fatal Impalement. K. Burger.—p. 1160.

Morphine in Labor.—Aufermann injected intravenously 0.02 Gm. of morphine in over 100 parturient women. The action lasts for two and a half to three hours. If the pains become weaker, pituitary preparations may be added.

Anesthesia in Abortion.—Gellert draws the cervix slightly down and to the side, and injects 10 cc. of a 1 per cent solution of procaine (with addition of epinephrine) into each side of the uterus. The needle is inserted at the junction of the cervix and vagina, to a depth of 1-2 cm. It is necessary to aspirate first to avoid the possibility of intravenous injection. He limits this method to subfebrile or noninfected women. The dilation of the cervix then becomes painless and easy, while the tonus of the body of the uterus is not impaired.

Extra-Uterine Pregnancy.—In patients who are not in an evidently dangerous condition, Liebe recommends to reenforce a doubtful diagnosis by repeated determination of the blood pressure and hemoglobin percentage, which may indicate a hemorrhage. The sedimentation test and the leukocyte-erythrocyte ratio may give further hints.

50: 1169-1232 (May 1) 1926

Congenital Para-Urethral Cyst. B. Ottow.—p. 1170.
Urethroplasty. K. v. Lehoczky-Semmelweis.—p. 1175.
Vesicovaginal Fistula. R. Freund.—p. 1177.
Pedunculated Fibromyxoma of Bladder. A. Saturski.—p. 1180.
Postoperative Ischuria. O. Gragert.—p. 1187.
*Methenamine By-Effects. O. Gragert.—p. 1195.
*Injury from Cystography. B. Ottow.—p. 1199.
Gangrenous Dissecting Cystitis. F. Lemperg.—p. 1203.
Puerperal Gangrenous Cystitis. M. Karlin.—p. 1205.
"Ureter Forceps." H. Küstner.—p. 1209.
*The Ureters in Pregnancy. G. Frommolt.—p. 1210.

Methenamine By-Effects.—Gragert observed hemorrhagic cystitis with grave tenesmus in two women after intravenous administration of a 40 per cent solution of methenamine in doses of 10 and 5 cc., respectively. A third woman, who had angioneurotic symptoms, reacted with considerable hematuria and tenesmus to three 0.5 Gm. doses of the drug taken by the mouth within twenty-four hours.

Injury from Cystography.—Ottow observed a pseudomembranous cystitis with necrosis of the mucous membrane after injection of a 25 per cent solution of sodium bromide for roentgenographic purposes.

The Ureters in Pregnancy.—Frommolt's experiments exclude the possibility of a disturbance of the closing mechanism between the bladder and ureter in the pathogenesis of dilatation of the ureter in pregnancy.

Grèce Médicale, Athens

28: 9-16 (April) 1926

*Blackwater Fever in Greece. J. P. Cardamatis.—p. 9.
A Typhoid Epidemic in Greece. N. A. Eustathianos.—p. 14.

Blackwater Fever.—Cardamatis has been insisting since 1893 that malaria is not responsible for bilious fever with hemoglobinuria, and that the destruction of the erythrocytes occurs in the liver rather than in the blood stream. It belongs in the acquired hemolytic jaundice group, probably of spirochetal origin. The spleen and kidneys may or may not cooperate. The disease which clinically resembles it most is yellow fever. Treatment must avoid quinine and apply measures known to be effectual against spirochetes. Muñoz reported in 1920 the cure in five grave cases under intravenous injection of mercuric cyanide. Others have reported similar experiences since, and Cardamatis adds another grave case to the list, with prompt recovery after three intravenous injections of 0.01 Gm. of mercuric cyanide in five days. The young man had a history of malaria.

Mediko-Biologitchesky Jurnal, Moscow

4: 3-133, 1926

Experimental Polyuria. E. Sharpey-Shafer.—p. 12.
Automatic Contractions of Arteries. A. Titaeff.—p. 22.
Pathology of Leydig's Cells. Z. Morgenstern.—p. 29.
*Effect of Removal of the Pituitary. S. Arkhangelsky.—p. 38.
Liver Function with Endocrine Insufficiency. A. Trynkin.—p. 48.
Distant Reflexes from the Prostate. V. Ilynsky.—p. 52.
Asymmetric Phenomena in the Involuntary System. M. Sereisky et al.—p. 63.
Reflexes of the Involuntary System. I. Jakovleva and G. Freidovitch.—p. 78.
*Electrolytes and Saliva Secretion. D. Alpern.—p. 93.
The Reflexes with Strychnine Poisoning of the Spinal Cord. I. Beritoff and O. Nivinskaia.—p. 108.
The Vegetative Centers in Epidemic Encephalitis. M. Ammosoff.—p. 118.

Effect of Removal of the Pituitary.—In Arkhangelsky's experiments on twenty-five dogs, after removal of the anterior lobe or the whole of the pituitary body, the animals survived for a year and even longer. Growth and sexual maturity seemed retarded. The temperature declined, the assimilation of carbohydrates was enhanced, and the eosinophils increased in the blood. Adiposis was manifest (characteristically localized in the kidney region and pelvis); also fatty degeneration of the liver, and histologic changes in the thyroid and suprarenals indicating exaggerated functioning. Polyuria was not constant.

Electrolytes and Nerve Mechanism of Saliva Secretion.—Alpern found that the calcium content of the saliva was reduced after extirpation of the sympathetic nerve. Severing first the chorda tympani, then the sympathetic, induced decrease of calcium and increase of potassium in the saliva. The same was observed with poisons acting on the sympathetic. Poisons for the parasympathetic, and severing the chorda tympani failed to modify the amount of calcium. The sympathetic seems to influence the electrolyte composition of the saliva, that is, it modifies the gland cells. Hence, it may be considered a trophic nerve, acting on the functioning of cell protoplasma.

Finska Läkaresällskapets Handlingar, Helsingfors

68: 305-396 (April) 1926

*Biologic Action of Roentgen Rays. G. Jansson.—p. 305.
*Tetany as Cause of Gastric Colic. F. Langenskiöld.—p. 324.
*Seasickness. F. Leiri.—p. 343.
*Infectious Pyelonephritis. B. Runeberg.—p. 357.
The Wassermann Reaction During and After Treatment with Insoluble Mercury Salts. C. Thesleff.—p. 373.

Biologic Action of Roentgen Rays.—Jansson found that the temperature had a marked influence on the biologic action of the roentgen rays as studied with the darkfield microscope, low temperatures depressing the vitality of the cells. He was able to trace the changes induced in the cells from the slightest injury to complete devitalization of the cell. Nothing was observed that sustained Dessauer's heat-point theory. On the other hand, Pordes' theory that the roentgen rays inflict an ultramicromechanical injury on the building stones of the living substance has gained in credibility.

Tetany as Responsible for Gastric Pains.—Langenskiöld calls attention to the unsuspected frequency of latent tetany in adults as the primary disturbance responsible for pain in the stomach. In five cases of spasms of pain in the stomach region, tetany was manifest, and ten others presented symptoms generally accepted as pathognomonic of tetany. On the other hand, he never found anything suggesting tetany in the thirty-four healthy persons tested, nor in persons with organic stomach lesions, except when the conditions were such as are known to invite tetany. A chart groups the test findings in 105 subjects, showing that tetany is comparatively common in Finland, and that its main manifestations are visceral.

Seasickness.—Leiri regards atropine as the most effectual remedy for seasickness. It paralyzes the parasympathetic and thus prevents the reflex action from the vestibule which is started and maintained by the unusual movements of the ship. He explains why epinephrine has to be given with it.

Infectious Pyelonephritis.—Runeberg insists on absolute repose in bed as indispensable, and until a week or two after the temperature has returned to normal. He has the patient drink up to 3 liters of fluid each day; alkaline mineral waters and milk only in moderate amounts. While there is fever, protein and salt should be avoided.

Hospitalstidende, Copenhagen

69: 289-312 (April 1) 1926

*Bacteriology of the Bile. S. Hansen.—p. 289.
*Irradiated Cod Liver Oil. S. F. Nielsen.—p. 300.

The Bacteriology of the Bile.—Hansen took cultures from the bile at 157 necropsies, regardless of the terminal illness. Bacteriologic examination was positive in 41.4 per cent, and the bile was infectious in 42.5 per cent of the gallstone operation cases. The younger stones were found mostly in the healthy gallbladder, with sterile bile, which seems to discredit the assumption of infection as necessary to stone formation. The older stones were in pathologic gallbladders with infected bile, indicating that the infection was secondary.

Irradiated Cod Liver Oil.—Nielsen failed to confirm Malmstrøm's statements in regard to irradiated cod liver oil.

69: 337-364 (April 15) 1926

*Intravenous Sugar Tests. S. Jørgensen.—p. 337.
The Blood Picture with Enlargement of the Prostate. O. Bouet and V. Eskelund.—p. 351.
Necrosis Adiposa Neonatorum. G. Gelbjerg-Hansen.—p. 357.

Comparative Study of Blood Sugar.—Jørgensen tabulates the data from six patients, kept in bed and given in turn intravenous injections of 5 Gm. of glucose, levulose and galactose. It seemed to be impossible to discover any common standpoint from which the blood sugar percentages afterward could be compared with each other, the curves were so widely divergent.

Ugeskrift for Læger, Copenhagen

88: 389-408 (April 22) 1926

*Fractional Analysis of Stomach Content. K. Faber et al.—p. 389.
*Calculi in the Pancreas. E. Holm.—p. 398.
"Cerebrospinal Fluid with Brain Abscess." R. Lund.—p. 401.

Fractional Analysis of Stomach Contents.—Faber, Holst and Norgaard tabulate the results of fractional analysis of the stomach contents in 159 patients, mostly with digestive disturbances. Only in exceptional cases was the fractional technic more instructive than the ordinary Ewald test meal method, for estimating secretion of hydrochloric acid.

Calculi in the Pancreas.—At necropsy of a man, aged 49, who had died in diabetic coma, a year after the first symptoms of diabetes, the pancreas was found partly calcified, studded with nodules containing concretions. Its duct was crowded with small white calculi. They differed from gallstones in that they were not faceted, and did not contain bilirubin except when long impacted where bile could reach them. There are sixteen cases on record in which a pancreas calculus was removed by an operation, with eleven recoveries.